

## ROUTING RECORD

DATE	FROM	TO	ACTION
4-8-11	ADP1	GRP1	Prescreen
7-21-11	GRP1		Accept TV REV.
8-18-11	GRP1	ADP1	TV Rev. Deminimis Sig. Recomm.
6-14-12	ADP1	CIP/JC	TV Rev. - EPA Review / Sign Letter
8-16-12	GRP1	ADP1	TV Final Rev. Ready to issue
8-17-12	ADP1	CIP	TV Rev. Rec'd

REFERENCE TO OTHER APCD RECORDS INCLUDING VARIANCES

Title V Revision ~~Not~~ Approved

APPL # 520795

I.D. # 17301

ORANGE COUNTY SANITATION DISTRICT

10844 ELLIS AVE  
FOUNTAIN VALLEY  
TITLE V REVISION

Date: 04/07/11



South Coast Air Quality Management District

**Form 400-A****Application Form for Permit or Plan Approval**

List only one piece of equipment or process per form.

Mail To:  
SCAQMD  
P.O. Box 4944  
Diamond Bar, CA 91765-0944  
Tel: (909) 396-3385  
www.aqmd.gov

**Section A - Operator Information**

1. Facility Name (Business Name of Operator to Appear on the Permit): <b>Orange County Sanitation District</b>	2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): <b>017301</b>
3. Owner's Business Name (If different from Business Name of Operator):	

**Section B - Equipment Location Address**

4. Equipment Location Is: ☒ Fixed Location ☐ Various Location  
(For equipment operated at various locations, provide address of initial site.)

**10844 Ellis Avenue**  
Street Address  
**Fountain Valley**, CA **92708-7018**  
City Zip  
**Terry Ahn** **Regulatory Specialist**  
Contact Name Title  
**(714) 593-7082** **(714) 962-2591**  
Phone # Ext. Fax #  
E-Mail: **tahn@ocsd.com**

**Section C - Permit Mailing Address**

5. Permit and Correspondence Information:  
☒ Check here if same as equipment location address

**10844 Ellis Avenue**  
Address  
**Fountain Valley**, CA **92708-7018**  
City State Zip  
**Terry Ahn** **Regulatory Specialist**  
Contact Name Title  
**(714) 593-7082** **(714) 962-2591**  
Phone # Ext. Fax #  
E-Mail: **tahn@ocsd.com**

**Section D - Application Type**

6. The Facility Is: ☐ Not In RECLAIM or Title V ☐ In RECLAIM ☒ In Title V ☐ In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application: <input type="radio"/> New Construction (Permit to Construct) <input type="radio"/> Equipment On-Site But Not Constructed or Operational <input type="radio"/> Equipment Operating Without A Permit * <input type="radio"/> Compliance Plan <input type="radio"/> Registration/Certification <input type="radio"/> Streamlined Standard Permit	7c. Equipment or Process with an Existing/Previous Application or Permit: <input type="radio"/> Administrative Change <input type="radio"/> Alteration/Modification <input type="radio"/> Alteration/Modification without Prior Approval * <input type="radio"/> Change of Condition <input type="radio"/> Change of Condition without Prior Approval * <input type="radio"/> Change of Location <input type="radio"/> Change of Location without Prior Approval * <input type="radio"/> Equipment Operating with an Expired/Inactive Permit * <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"><b>Existing or Previous Permit/Application</b> If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number: _____</div>
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7b. Facility Permits:  
☒ Title V Application or Amendment (Also submit Form 500-A1)  
☐ RECLAIM Facility Permit Amendment

8a. Estimated Start Date of Construction (mm/dd/yyyy): **03/20/2012**  
8b. Estimated End Date of Construction (mm/dd/yyyy): **05/18/2015**  
8c. Estimated Start Date of Operation (mm/dd/yyyy): **05/18/2015**

9. Description of Equipment or Reason for Compliance Plan (list applicable rule):  
**New Sludge Thickening and Dewatering Facility and Odor Control System (OCSD Job No. P1-101)**

10. For identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process) \_\_\_\_\_

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are \$500,000 or less OR a not-for-profit training center) ☒ No ☐ Yes

12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? ☒ No ☐ Yes  
If Yes, provide NOV/NC#: \_\_\_\_\_

**Section E - Facility Business Information**

13. What type of business is being conducted at this equipment location?  
**Municipal Wastewater Treatment**

14. What is your business primary NAICS Code? (North American Industrial Classification System) **221320**

15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? ☐ No ☒ Yes

16. Are there any schools (K-12) within 1000 feet of the facility property line? ☒ No ☐ Yes

**Section F - Authorization/Signature**

I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official: <i>James D. Ruth</i>	18. Title of Responsible Official: <b>General Manager</b>	19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) <input type="radio"/> No <input checked="" type="radio"/> Yes
20. Print Name: <b>James D. Ruth</b>	21. Date: <b>3/30/11</b>	22. Do you claim confidentiality of data? (If Yes, see instructions.) <input checked="" type="radio"/> No <input type="radio"/> Yes

23. Check List: ☒ Authorized Signature/Date ☒ Form 400-CEQA ☒ Supplemental Form(s) (ie., Form 400-E-xx) ☒ Fees Enclosed

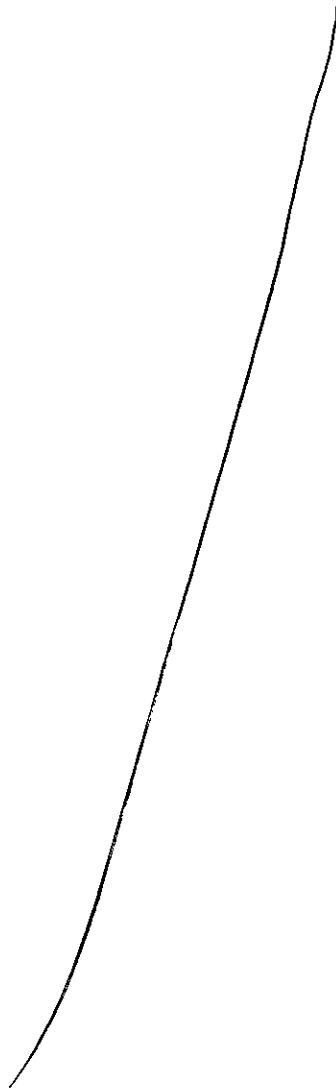
AQMD USE ONLY	APPLICATION TRACKING # <b>520795100003848</b>	CHECK # <b>27,003,10</b>	AMOUNT RECEIVED <b>193887</b>	PAYMENT TRACKING # <b>4-7-11</b>	VALIDATION			
DATE	APP DATE	APP DATE	CLASS	BASIC	EQUIPMENT CATEGORY CODE	TEAM	ENGINEER	REASON/ACTION TAKEN
	REJ	REJ	I III	CONTROL				

TSM

30/3

S.C.A.G.M.D.  
ENGINEERING

11 APR -7 P1:54





South Coast Air Quality Management District

**Form 500-A2****Title V Application Certification**

Mail To:  
SCAQMD  
P.O. Box 4944  
Diamond Bar, CA 91765-0944  
Tel: (909) 396-3385  
www.aqmd.gov

**Section I - Operator Information****1. Facility Name** (Business Name of Operator That Appears On Permit):

Orange County Sanitation District

**2. Valid AQMD Facility ID** (Available On Permit Or Invoice Issued By AQMD):

017301

- 3. This Certification is submitted with a** (Check one):
- a. ☒ Title V Application (Initial, Revision or Renewal)
  - b. ☐ Supplement/Correction to a Title V Application
  - c. ☐ MACT Part 1

**4. Is Form 500-C2 included with this Certification?** ☐ Yes ☒ No**Section II - Responsible Official Certification Statement**

Read each statement carefully and check each that applies – You must check 3a or 3b.

**1. For Initial, Permit Renewal, and Administrative Application Certifications:**

- a. ☐ The facility, including equipment that are exempt from written permit per Rule 219, is currently operating and will continue to operate in compliance with all applicable requirement(s) identified in Section II and Section III of Form 500-C1.
  - i. ☐ except for those requirements that do not specifically pertain to such devices or equipment and that have been identified as "Remove" on Section III of Form 500-C1.
  - ii. ☐ except for those devices or equipment that have been identified on the completed and attached Form 500-C2 that will not be operating in compliance with the specified applicable requirement(s).
- b. ☐ The facility, including equipment that are exempt from written permit per Rule 219, will meet in a timely manner, all applicable requirements with future effective dates.

**2. For Permit Revision Application Certifications:**

- a. ☒ The equipment or devices to which this permit revision applies, will in a timely manner comply with all applicable requirements identified in Section II and Section III of Form 500-C1.

**3. For MACT Hammer Certifications:**

- a. ☐ The facility is subject to Section 112(j) of the Clean Air Act (Subpart B of 40 CFR part 63), also known as the MACT "hammer." The following information is submitted with a Title V application to comply with the Part 1 requirements of Section 112(j).
- b. ☐ The facility is not subject to Section 112(j) of the Clean Air Act (Subpart B of 40 CFR part 63).

**Section III - Authorization/Signature**

I certify under penalty of law that I am the responsible official for this facility as defined in AQMD Regulation XXX and that based on information and belief formed after reasonable inquiry, the statement and information in this document and in all attached application forms and other materials are true, accurate, and complete.

**1. Signature of Responsible Official:****2. Title of Responsible Official:**

General Manager

**3. Print Name:**

James D. Ruth

**4. Date:**

3/30/11

**5. Phone #:**

(714) 593-7110

**6. Fax #:**

(714) 968-4389

**7. Address of Responsible Official:**

10844 Ellis Avenue

Fountain Valley

CA

92708-7018

Street #

City

State

Zip

**Acid Rain Facilities Only: Please Complete Section IV**

Acid Rain facilities must certify their compliance status of the devices subject to applicable requirements under Title IV by an individual who meets the definition of Designated (or Alternate) Representative in 40 CFR Part 72.

Section IV - Designated Representative Certification Statement			
<b>For Acid Rain Facilities Only:</b> I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.			
1. Signature of Designated Representative or Alternate:		2. Title of Designated Representative or Alternate:	
3. Print Name of Designated Representative or Alternate:		4. Date:	
5. Phone #:		6. Fax #:	
7. Address of Designated Representative or Alternate:			
Street #		City	State Zip



South Coast Air Quality Management District

**Form 500-C1**

**Title V Compliance Status Report**

To provide the compliance status of your facility with applicable federally enforceable requirements and identify other local-only requirements, complete this form and attach it to a completed compliance certification Form 500-A2. As appropriate, all submittals of Form 500-C2 as appropriate should also be attached to this form.

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P.O. Box 4944  
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385  
[www.aqmd.gov](http://www.aqmd.gov)

**Section I - Operator Information**

**1. Facility Name** (Business Name of Operator That Appears On Permit):

Orange County Sanitation District

**2. Valid AQMD Facility ID** (Available On Permit Or Invoice

Issued By AQMD):

017301

**PROCEDURES FOR DETERMINING COMPLIANCE STATUS**

- Equipment verification:** Review the list of pending applications, and either the preliminary Title V facility permit or the list of current permits to operate that the AQMD provided you, to determine if they completely and accurately describe all equipment operating at the facility. Attach a statement to describe any discrepancies.
- Identify applicable requirements\*:** Use the checklist in Section II to identify all applicable and federally-enforceable local, state, and federal rules and regulations, test methods, and monitoring, recordkeeping and reporting (MRR) requirements that apply to any equipment or process (including equipment exempt from a permit by Rule 219) at your facility. The potential applicable requirements, test methods and MRR requirements are identified and listed adjacent to each given equipment/process description. Check off each box adjacent to the corresponding requirement as it applies to your particular equipment/process.  
Note: Even if there is only one piece of equipment that is subject to a particular requirement, the appropriate box should be checked.
- Identify additional applicable requirements\*:** Use Section III to identify any additional requirements not found in Section II. Section II is not a complete list of all applicable requirements. It does not include recently adopted NESHAP regulations by EPA or recent amendments to AQMD rules. Do not add rules listed in Section V here.
- Identify any requirements that do not apply to a specific piece of equipment or process:** Also use Section III to identify any requirements that are listed in Section II but that do not apply to a specific piece of equipment or process. Fill out Section III of this form and attach a separate sheet to explain the reason(s) why the identified rules do not apply. Note: Listing any requirement that does not apply to a specific piece of equipment will not provide the facility with a permit shield unless one is specifically requested by completing Form 500-D and is approved by AQMD.
- Identify SIP-approved rules that are not current AQMD rules:** Use Section IV to identify older versions of current AQMD rules that are the EPA-approved versions in the State Implementation Plan (SIP), and that are still applicable requirements as defined by EPA. The facility is not required to certify compliance with the items checked in Section IV provided that the non-SIP approved rule in Section II is at least as stringent as the older SIP-approved version in Section IV. \*\*
- Identify Local-Only Enforceable Regulatory Requirements:** Use Section V to identify AQMD rules that are not SIP-approved and are not federally enforceable.
- Determine compliance:** Determine if all equipment and processes are complying with all requirements identified in Sections II and III. If each piece of equipment complies with all applicable requirements, complete and attach Form 500-A2 to certify the compliance status of the facility. If any piece of equipment is not in compliance with any of the applicable requirements, complete and attach Form 500-C2 in addition to Form 500-A2.

\* The following AQMD rules and regulations are not required to be included in Section II and do not have to be added to Section III: Regulation I, List and Criteria in Regulation II, Rule 201, Rule 201.1, Rule 202, Rule 203, Rule 205, Rule 206, Rule 207, Rule 208, Rule 209, Rule 210, Rule 212, Rule 214, Rule 215, Rule 216, Rule 217, Rule 219, Rule 220, Rule 221, Regulation III, Regulation V, Regulation VIII, Regulation XII, Regulation XV, Regulation XVI, Regulation XIX, Regulation XXI, Regulation XXII, and Regulation XXX.

\*\* Emission units adversely affected by the gap between current and SIP-approved versions of rules may initially be placed in a non-Title V portion of the permit

Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> All Air Pollution Control Equipment Using Combustion (RECLAIM & non-RECLAIM sources)	<input type="checkbox"/> Rule 480 (10/07/77)	N/A	N/A
<input type="checkbox"/> All Coating Operations (12/15/00)	<input type="checkbox"/> Rule 442	<input type="checkbox"/> Rule 442(f)	<input type="checkbox"/> Rule 442(g)
<input type="checkbox"/> All Combustion Equipment, $\geq 555$ Mmbtu/Hr (except for NOx RECLAIM sources)	<input type="checkbox"/> Rule 474 (12/04/81)	<input type="checkbox"/> AQMD TM 7.1 or 100.1	
<input type="checkbox"/> All Combustion Equipment Except Internal Combustion Engines (RECLAIM & non-RECLAIM sources)	<input type="checkbox"/> Rule 407 (04/02/82) <input type="checkbox"/> Rule 409 (08/07/81)	<input type="checkbox"/> AQMD TM 100.1 or 10.1, 307-91 <input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3	
<input type="checkbox"/> All Combustion Equipment Using Gaseous Fuel (except SOx RECLAIM sources)	<input type="checkbox"/> Rule 431.1 (06/12/98)	<input type="checkbox"/> Rule 431.1(f)	<input type="checkbox"/> Rule 431.1(d) & (e)
<input type="checkbox"/> All Combustion Equipment Using Liquid Fuel (except SOx RECLAIM sources)	<input type="checkbox"/> Rule 431.2 (09/15/00)	<input type="checkbox"/> Rule 431.2(g)	<input type="checkbox"/> Rule 431.2(f)
<input type="checkbox"/> All Combustion Equipment Using Fossil Fuel (except SOx RECLAIM sources)	<input type="checkbox"/> Rule 431.3 (05/07/76)		
<input checked="" type="checkbox"/> All Equipment	<input type="checkbox"/> Rule 401 (11/09/01) <input type="checkbox"/> Rule 405 (02/07/86) <input checked="" type="checkbox"/> Rule 408 (05/07/76) <input checked="" type="checkbox"/> Rule 430 (07/12/96) <input checked="" type="checkbox"/> Rule 701 (06/13/97) <input checked="" type="checkbox"/> New Source Review, BACT <input type="checkbox"/> Rule 1703 (10/07/88) <input type="checkbox"/> 40 CFR68 - Accidental Release Prevention	<input type="checkbox"/> California Air Resources Board Visible Emission Evaluation <input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3  N/A  See Applicable Subpart	<input type="checkbox"/> Rule 430(b)   See Applicable Subpart
<input type="checkbox"/> All Equipment Processing Solid Materials	<input type="checkbox"/> Rule 403 (06/03/05)	<input type="checkbox"/> Rule 403(d)(3)	<input type="checkbox"/> Rule 403(f)
<input type="checkbox"/> All Equipment With Exhaust Stack (except cement kilns subject to Rule 1112.1)	<input type="checkbox"/> Rule 404 (02/07/86)	<input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3	
<input type="checkbox"/> All Facilities Using Solvents to Clean Various Items or Equipment	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 1171 (05/01/09) <input type="checkbox"/> 40 CFR63 SUBPART T	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 1171(e) See Applicable Subpart	<input type="checkbox"/> Rule 109(c) <input type="checkbox"/> Rule 1171(c)(6) See Applicable Subpart
<input type="checkbox"/> All RECLAIM Equipment (NOx & SOx)	<input type="checkbox"/> Reg. XX - RECLAIM	<input type="checkbox"/> Rule 2011, App. A (05/06/05) <input type="checkbox"/> Rule 2012, App. A (05/06/05)	<input type="checkbox"/> Rule 2011, App. A (05/06/05) <input type="checkbox"/> Rule 2012, App. A (05/06/05)
<input type="checkbox"/> Abrasive Blasting	<input type="checkbox"/> Rule 1140 (08/02/85)	<input type="checkbox"/> Rule 1140(d) & (e), AQMD Visible Emission Method	

**KEY ABBREVIATIONS:**

Reg. = AQMD Regulation  
Rule = AQMD Rule

App. = Appendix  
AQMD TM = AQMD Test Method

CFR = Code of Federal Regulations  
CCR = California Code of Regulations

## Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Aggregate and Related Operations	<input type="checkbox"/> Rule 1157 (09/08/06)	<input type="checkbox"/> Rule 1157(f)	<input type="checkbox"/> Rule 1157(e)
<input type="checkbox"/> Appliances Containing Ozone Depleting Substances (except Motor Vehicle Air Conditioners): Manufacturing, Repair, Maintenance, Service, & Disposal	<input type="checkbox"/> 40 CFR82 SUBPART F	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Asphalt	See Manufacturing, Asphalt Processing & Asphalt Roofing		
<input type="checkbox"/> Asphalt Concrete/Batch Plants	<input type="checkbox"/> 40 CFR60 SUBPART I	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Benzene Emissions, Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, & Coke By-Product Recovery Plants	<input type="checkbox"/> Rule 1173 (02/06/09) <input type="checkbox"/> Rule 1176 (09/13/96) <input type="checkbox"/> 40 CFR61 SUBPART L <input type="checkbox"/> 40 CFR61 SUBPART Y <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 1173(j) <input type="checkbox"/> Rule 1176(h) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1173(i) <input type="checkbox"/> Rule 1176(f) & (g) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Benzene Transfer Operations	<input type="checkbox"/> Rule 1142 (07/19/91) <input type="checkbox"/> 40 CFR61 SUBPART BB <input type="checkbox"/> 40 CFR63 SUBPART Y	<input type="checkbox"/> Rule 1142(e) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1142(h) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Benzene Waste Operations	<input type="checkbox"/> Rule 1176 (09/13/96) <input type="checkbox"/> 40 CFR61 SUBPART FF <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 1176(h) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1176(f) & (g) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Beryllium Emissions	<input type="checkbox"/> 40 CFR61 SUBPART C	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Beryllium Emissions, Rocket Motor Firing	<input type="checkbox"/> 40 CFR61 SUBPART D	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Boiler, < 5 Mmbtu/Hr (non-RECLAIM sources)	<input type="checkbox"/> Rule 1146.1 (09/05/08) <input type="checkbox"/> Rule 1146.2 (05/05/06) <input type="checkbox"/> 40 CFR63 SUBPART DDDDD	<input type="checkbox"/> Rule 1146.1(d) N/A See Applicable Subpart	<input type="checkbox"/> Rule 1146.1(c)(2) & (c)(3) N/A See Applicable Subpart
<input type="checkbox"/> Boiler, < 5 Mmbtu/Hr (RECLAIM sources)	<input type="checkbox"/> Rule 1146.1 (09/05/08) - excluding NOx requirements <input type="checkbox"/> 40 CFR63 SUBPART DDDDD	<input type="checkbox"/> Rule 1146.1(d) See Applicable Subpart	<input type="checkbox"/> Rule 1146.1(c)(2) & (c)(3) See Applicable Subpart

### KEY ABBREVIATIONS:

Reg. = AQMD Regulation  
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## Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Boiler, ≥ 5 Mmbtu/Hr (non-RECLAIM sources)	<input type="checkbox"/> Rule 218 (05/14/99) <input type="checkbox"/> Rule 429 (12/21/90) <input type="checkbox"/> Rule 475 (08/07/78) <input type="checkbox"/> Rule 476 (10/08/76) <input type="checkbox"/> Rule 1146 (09/05/08) <input type="checkbox"/> 40 CFR60 SUBPART D <input type="checkbox"/> 40 CFR60 SUBPART Da <input type="checkbox"/> 40 CFR60 SUBPART Dc <input type="checkbox"/> 40 CFR63 SUBPART DDDDD	<input type="checkbox"/> AQMD TM 100.1 N/A <input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3 <input type="checkbox"/> AQMD TM 7.1, 100.1, 5.1, 5.2, or 5.3 <input type="checkbox"/> Rule 1146(d) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 218(e) & (f) <input type="checkbox"/> Rule 429(d)  <input type="checkbox"/> Rule 1146(c)(6) & (c)(7) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Boiler, ≥ 5 Mmbtu/Hr (RECLAIM sources)	<input type="checkbox"/> Rule 475 (08/07/78) <input type="checkbox"/> Rule 476 (10/08/76) - excluding NOx requirements <input type="checkbox"/> Rule 1146 (09/05/08) - excluding NOx requirements <input type="checkbox"/> Rule 2011 (05/06/05) <input type="checkbox"/> or <input type="checkbox"/> Rule 2012 (05/06/05) <input type="checkbox"/> 40 CFR60 SUBPART D <input type="checkbox"/> 40 CFR60 SUBPART Da <input type="checkbox"/> 40 CFR60 SUBPART Dc <input type="checkbox"/> 40 CFR63 SUBPART DDDDD	<input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3 <input type="checkbox"/> AQMD TM 7.1, 100.1, 5.1, 5.2, or 5.3 <input type="checkbox"/> Rule 1146(d) <input type="checkbox"/> Rule 2011, App. A (05/06/05) <input type="checkbox"/> or <input type="checkbox"/> Rule 2012, App. A (05/06/05) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	 <input type="checkbox"/> Rule 1146(c)(6) & (c)(7) <input type="checkbox"/> Rule 2011, App. A (05/06/05) <input type="checkbox"/> or <input type="checkbox"/> Rule 2012, App. A (05/06/05) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Boiler, Petroleum Refining (non-RECLAIM sources)	<input type="checkbox"/> Rule 218 (05/14/99) <input type="checkbox"/> Rule 429 (12/21/90) <input type="checkbox"/> Rule 431.1 (06/12/98) <input type="checkbox"/> Rule 475 (08/07/78) <input type="checkbox"/> Rule 1146 (09/05/08) <input type="checkbox"/> 40 CFR60 SUBPART J <input type="checkbox"/> 40 CFR63 SUBPART DDDDD	<input type="checkbox"/> AQMD TM 100.1 N/A <input type="checkbox"/> Rule 431.1(f) <input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3 <input type="checkbox"/> Rule 1146(d) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 218(e) & (f) <input type="checkbox"/> Rule 429(d) <input type="checkbox"/> Rule 431.1(d) & (e)  <input type="checkbox"/> Rule 1146(c)(6) & (c)(7) See Applicable Subpart See Applicable Subpart

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Reg. = AQMD Regulation  
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 AQMD TM = AQMD Test Method

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 CCR = California Code of Regulations

## Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Boiler, Petroleum Refining (RECLAIM sources)	<input type="checkbox"/> Rule 1146 (09/05/08) - excluding NOx requirements <input type="checkbox"/> Rule 2011 (05/06/05) <input type="checkbox"/> or <input type="checkbox"/> Rule 2012 (05/06/05) <input type="checkbox"/> 40 CFR60 SUBPART J <input type="checkbox"/> 40 CFR63 SUBPART DDDDD	<input type="checkbox"/> Rule 1146(d) <input type="checkbox"/> Rule 2011, App. A (05/06/05) <input type="checkbox"/> or <input type="checkbox"/> Rule 2012, App. A (05/06/05) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1146(c)(6) & (c)(7) <input type="checkbox"/> Rule 2011, App. A (05/06/05) <input type="checkbox"/> or <input type="checkbox"/> Rule 2012, App. A (05/06/05) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Boilers, Electric Utility (non-RECLAIM sources)	<input type="checkbox"/> Rule 218 (05/14/99) <input type="checkbox"/> Rule 429 (12/21/90) <input type="checkbox"/> Rule 1135 (07/19/91) <input type="checkbox"/> 40 CFR60 SUBPART Db <input type="checkbox"/> 40 CFR63 SUBPART DDDDD	<input type="checkbox"/> AQMD TM 100.1 N/A <input type="checkbox"/> Rule 1135(e) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 218(e) & (f) <input type="checkbox"/> Rule 429(d) <input type="checkbox"/> Rule 1135(e) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Boilers, Electric Utility (RECLAIM sources)	<input type="checkbox"/> Rule 2012 (05/06/05) <input type="checkbox"/> 40 CFR60 SUBPART Db <input type="checkbox"/> 40 CFR63 SUBPART DDDDD	<input type="checkbox"/> Rule 2012, App. A (05/06/05) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 2012, App. A (05/06/05) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Bulk Loading Of Organic Liquids	<input type="checkbox"/> Rule 462 (05/14/99) <input type="checkbox"/> 40 CFR60 SUBPART XX <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART BBBB <input type="checkbox"/> 40 CFR63 SUBPART EEEE	<input type="checkbox"/> Rule 462(f) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 462(g) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Cadmium Electroplating Operation	<input type="checkbox"/> Rule 1426 (05/02/03)		<input type="checkbox"/> Rule 1426(e)
<input type="checkbox"/> Calciner, Mineral Industries	<input type="checkbox"/> 40 CFR60 SUBPART UUU	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Calciner, Petroleum Coke	<input type="checkbox"/> Rule 477 (04/03/81) <input type="checkbox"/> Rule 1119 (03/02/79) <input type="checkbox"/> 40 CFR63 SUBPART L	<input type="checkbox"/> AQMD Visible Emissions, AQMD TM 5.1, 5.2, or 5.3 <input type="checkbox"/> AQMD TM 6.1 or 100.1 See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Charbroilers	<input type="checkbox"/> Rule 1174 (10/05/90) <input type="checkbox"/> Rule 1138 (11/14/97)	<input type="checkbox"/> AQMD Test Protocol <input type="checkbox"/> Rule 1138(g)	<input type="checkbox"/> Rule 1138(d)
<input type="checkbox"/> Chrome Plating & Chromic Acid Anodizing Operation	<input type="checkbox"/> Rule 1426 (05/02/03) <input type="checkbox"/> Rule 1469 (12/05/08)	<input type="checkbox"/> Rule 1469(e)	<input type="checkbox"/> Rule 1426(e) <input type="checkbox"/> Rule 1469(g), (j) & (k)

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## Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Coating Operation, Adhesive Application Operation	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 481 (01/11/02) <input type="checkbox"/> Rule 1132 (05/05/06) <input type="checkbox"/> Rule 1168 (01/07/05) <input type="checkbox"/> Rule 1171 (05/01/09) <input type="checkbox"/> 40 CFR60 SUBPART RR	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 481(d) <input type="checkbox"/> Rule 1132(f) <input type="checkbox"/> Rule 1168(f) & (e) <input type="checkbox"/> Rule 1171(e) See Applicable Subpart	<input type="checkbox"/> Rule 109(c) <input type="checkbox"/> Rule 1132(g) <input type="checkbox"/> Rule 1168(d) <input type="checkbox"/> Rule 1171(c)(6) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Aerospace Assembly & Component Manufacturing	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 481 (01/11/02) <input type="checkbox"/> Rule 1124 (09/21/01) <input type="checkbox"/> Rule 1132 (05/05/06) <input type="checkbox"/> Rule 1171 (05/01/09) <input type="checkbox"/> 40 CFR63 SUBPART GG	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 481(d) <input type="checkbox"/> Rule 1124(e) & (f) <input type="checkbox"/> Rule 1132(f) <input type="checkbox"/> Rule 1171(e) See Applicable Subpart	<input type="checkbox"/> Rule 109(c) <input type="checkbox"/> Rule 1124(j) & (d) <input type="checkbox"/> Rule 1132(g) <input type="checkbox"/> Rule 1171(c)(6) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Graphic Arts (Gravure, Letter Press, Flexographic & Lithographic Printing Process, Etc.)	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 481 (01/11/02) <input type="checkbox"/> Rule 1130 (10/08/99) <input type="checkbox"/> Rule 1132 (05/05/06) <input type="checkbox"/> Rule 1171 (05/01/09) <input type="checkbox"/> 40 CFR60 SUBPART QQ <input type="checkbox"/> 40 CFR60 SUBPART RR <input type="checkbox"/> 40 CFR60 SUBPART FFF <input type="checkbox"/> 40 CFR60 SUBPART VVV <input type="checkbox"/> 40 CFR63 SUBPART KK <input type="checkbox"/> 40 CFR63 SUBPART JJJJ	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 481(d) <input type="checkbox"/> Rule 1130(h) <input type="checkbox"/> Rule 1132(f) <input type="checkbox"/> Rule 1171(e) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 109(c) <input type="checkbox"/> Rule 1130(e) <input type="checkbox"/> Rule 1132(g) <input type="checkbox"/> Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Coating Operation, Magnet Wire Coating	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 481 (01/11/02) <input type="checkbox"/> Rule 1126 (01/13/95) <input type="checkbox"/> Rule 1132 (05/05/06) <input type="checkbox"/> Rule 1171 (05/01/09)	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 481(d) <input type="checkbox"/> Rule 1126(d) <input type="checkbox"/> Rule 1132(f) <input type="checkbox"/> Rule 1171(e)	<input type="checkbox"/> Rule 109(c) <input type="checkbox"/> Rule 1126(c)(4) <input type="checkbox"/> Rule 1132(g) <input type="checkbox"/> Rule 1171(c)(6)

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## Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Coating Operation, Marine Coating (Except for recreational equipment)	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 481 (01/11/02) <input type="checkbox"/> Rule 1106 (01/13/95) <input type="checkbox"/> Rule 1132 (05/05/06) <input type="checkbox"/> Rule 1171 (05/01/09) <input type="checkbox"/> 40 CFR63 SUBPART II	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 481(d) <input type="checkbox"/> Rule 1106(e) <input type="checkbox"/> Rule 1132(f) <input type="checkbox"/> Rule 1171(e) See Applicable Subpart	<input type="checkbox"/> Rule 109(c) <input type="checkbox"/> Rule 1106(c)(5) <input type="checkbox"/> Rule 1132(g) <input type="checkbox"/> Rule 1171(c)(6) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Metal Coating	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 481 (01/11/02) <input type="checkbox"/> Rule 1107 (01/06/06) <input type="checkbox"/> Rule 1132 (05/05/06) <input type="checkbox"/> Rule 1171 (05/01/09) <input type="checkbox"/> 40 CFR60 SUBPART EE <input type="checkbox"/> 40 CFR60 SUBPART SS <input type="checkbox"/> 40 CFR63 SUBPART NNNN <input type="checkbox"/> 40 CFR63 SUBPART MMMM <input type="checkbox"/> 40 CFR63 SUBPART RRRR	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 481(d) <input type="checkbox"/> Rule 1107(e) <input type="checkbox"/> Rule 1132(f) <input type="checkbox"/> Rule 1171(e) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 109(c) <input type="checkbox"/> Rule 1107(j) <input type="checkbox"/> Rule 1132(g) <input type="checkbox"/> Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Coating Operation, Metal Containers, Closure, & Coil Coating Operations	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 481 (01/11/02) <input type="checkbox"/> Rule 1125 (03/07/08) <input type="checkbox"/> Rule 1132 (05/05/06) <input type="checkbox"/> Rule 1171 (05/01/09) <input type="checkbox"/> 40 CFR60 SUBPART TT <input type="checkbox"/> 40 CFR60 SUBPART WW <input type="checkbox"/> 40 CFR63 SUBPART KKKK <input type="checkbox"/> 40 CFR63 SUBPART SSSS	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 481(d) <input type="checkbox"/> Rule 1125(e) <input type="checkbox"/> Rule 1132(f) <input type="checkbox"/> Rule 1171(e) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 109(c) <input type="checkbox"/> Rule 1125(c)(6) <input type="checkbox"/> Rule 1132(g) <input type="checkbox"/> Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Coating Operation, Motor Vehicle & Mobile Equipment Non-Assembly Line Coating Operation	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 481 (01/11/02) <input type="checkbox"/> Rule 1132 (05/05/06) <input type="checkbox"/> Rule 1151 (12/02/05) <input type="checkbox"/> Rule 1171 (05/01/09)	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 481(d) <input type="checkbox"/> Rule 1132(f) <input type="checkbox"/> Rule 1151(h) <input type="checkbox"/> Rule 1171(e)	<input type="checkbox"/> Rule 109© <input type="checkbox"/> Rule 1132(g) <input type="checkbox"/> Rule 1151(f) <input type="checkbox"/> Rule 1171(c)(6)

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## Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Coating Operation, Motor Vehicle Assembly Line	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 481 (01/11/02) <input type="checkbox"/> Rule 1115 (05/12/95) <input type="checkbox"/> Rule 1132 (05/05/06) <input type="checkbox"/> Rule 1171 (05/01/09) <input type="checkbox"/> 40 CFR60 SUBPART MM <input type="checkbox"/> 40 CFR63 SUBPART IIII	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 481(d) <input type="checkbox"/> Rule 1115(e) <input type="checkbox"/> Rule 1132(f) <input type="checkbox"/> Rule 1171(e) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 109(c)  <input type="checkbox"/> Rule 1115(g) <input type="checkbox"/> Rule 1132(g) <input type="checkbox"/> Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Coating Operation, Paper, Fabric, & Film Coating Operations	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 481 (01/11/02) <input type="checkbox"/> Rule 1128 (03/08/96) <input type="checkbox"/> Rule 1132 (05/05/06) <input type="checkbox"/> Rule 1171 (05/01/09) <input type="checkbox"/> 40 CFR60 SUBPART VVV <input type="checkbox"/> 40 CFR63 SUBPART OOOO	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 481(d) <input type="checkbox"/> Rule 1128(f) <input type="checkbox"/> Rule 1132(f) <input type="checkbox"/> Rule 1171(e) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 109(c)  <input type="checkbox"/> Rule 1128(e) <input type="checkbox"/> Rule 1132(g) <input type="checkbox"/> Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Coating Operation, Plastic, Rubber, & Glass	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 481 (01/11/02) <input type="checkbox"/> Rule 1145 (12/04/09) <input type="checkbox"/> Rule 1132 (05/05/06) <input type="checkbox"/> Rule 1171 (05/01/09) <input type="checkbox"/> 40 CFR60 SUBPART TTT <input type="checkbox"/> 40 CFR63 SUBPART NNNN <input type="checkbox"/> 40 CFR63 SUBPART PPPP	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 481(d) <input type="checkbox"/> Rule 1145(e) <input type="checkbox"/> Rule 1132(f) <input type="checkbox"/> Rule 1171(e) See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 109(c)  <input type="checkbox"/> Rule 1145(d) <input type="checkbox"/> Rule 1132(g) <input type="checkbox"/> Rule 1171(c)(6) See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Coating Operation, Pleasure Craft	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 481 (01/11/02) <input type="checkbox"/> Rule 1106.1 (02/12/99) <input type="checkbox"/> Rule 1132 (05/05/06) <input type="checkbox"/> Rule 1171 (05/01/09) <input type="checkbox"/> 40 CFR63 SUBPART II	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 481(d) <input type="checkbox"/> Rule 1106.1(e) <input type="checkbox"/> Rule 1132(f) <input type="checkbox"/> Rule 1171(e) See Applicable Subpart	<input type="checkbox"/> Rule 109(c)  <input type="checkbox"/> Rule 1106.1(d) <input type="checkbox"/> Rule 1132(g) <input type="checkbox"/> Rule 1171(c)(6) See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Coating Operation, Screen Printing	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 1130.1 (12/13/96) <input type="checkbox"/> Rule 1132 (05/05/06) <input type="checkbox"/> Rule 1171 (05/01/09) <input type="checkbox"/> 40 CFR63 SUBPART KK	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 1130.1(g) <input type="checkbox"/> Rule 1132(f) <input type="checkbox"/> Rule 1171(e) See Applicable Subpart	<input type="checkbox"/> Rule 109(c) <input type="checkbox"/> Rule 1130.1(c)(5) <input type="checkbox"/> Rule 1132(g) <input type="checkbox"/> Rule 1171(c)(6) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Use Of Architectural Coating (Stationary Structures)	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 481 (01/11/02) <input type="checkbox"/> Rule 1113 (07/13/07) <input type="checkbox"/> Rule 1132 (05/05/06) <input type="checkbox"/> Rule 1171 (05/01/09)	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 481(d) <input type="checkbox"/> Rule 1113(e) <input type="checkbox"/> Rule 1132(f) <input type="checkbox"/> Rule 1171(e)	<input type="checkbox"/> Rule 109(c)  <input type="checkbox"/> Rule 1132(g) <input type="checkbox"/> Rule 1171(c)(6)
<input type="checkbox"/> Coating Operation, Wood Flat Stock	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 481 (01/11/02) <input type="checkbox"/> Rule 1104 (08/13/99) <input type="checkbox"/> Rule 1132 (05/05/06) <input type="checkbox"/> Rule 1171 (05/01/09) <input type="checkbox"/> 40 CFR63 SUBPART II	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 481(d) <input type="checkbox"/> Rule 1104(e) <input type="checkbox"/> Rule 1132(f) <input type="checkbox"/> Rule 1171(e) See Applicable Subpart	<input type="checkbox"/> Rule 109(c)  <input type="checkbox"/> Rule 1104(d) <input type="checkbox"/> Rule 1132(g) <input type="checkbox"/> Rule 1171(c)(6) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Wood Products (Commercial Furniture, Cabinets, Shutters, Frames, Toys)	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 481 (01/11/02) <input type="checkbox"/> Rule 1132 (05/05/06) <input type="checkbox"/> Rule 1136 (06/14/96) <input type="checkbox"/> Rule 1171 (05/01/09) <input type="checkbox"/> 40 CFR63 SUBPART JJ	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 481(d) <input type="checkbox"/> Rule 1132(f) <input type="checkbox"/> Rule 1136(f) <input type="checkbox"/> Rule 1171(e) See Applicable Subpart	<input type="checkbox"/> Rule 109(c)  <input type="checkbox"/> Rule 1132(g) <input type="checkbox"/> Rule 1136(d) & (g) <input type="checkbox"/> Rule 1171(c)(6) See Applicable Subpart
<input type="checkbox"/> Coater	See Coating Operations		
<input type="checkbox"/> Columns	See Petroleum Refineries, Fugitive Emissions		
<input type="checkbox"/> Composting Operation	<input type="checkbox"/> Rule 1133 (01/10/03) <input type="checkbox"/> Rule 1133.1 (01/10/03) <input type="checkbox"/> Rule 1133.2 (01/10/03)	<input type="checkbox"/> Rule 1133.1(e) <input type="checkbox"/> Rule 1133.2(g)	<input type="checkbox"/> Rule 1133.1(d) <input type="checkbox"/> Rule 1133.2(h)
<input type="checkbox"/> Compressors	See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions		
<input type="checkbox"/> Concrete Batch Plants	See Nonmetallic Mineral Processing Plants		
<input type="checkbox"/> Consumer Product Manufacturing	See Manufacturing, Consumer Product		
<input type="checkbox"/> Cooling Tower, Hexavalent Chromium	<input type="checkbox"/> 40 CFR63 SUBPART Q	See Applicable Subpart	See Applicable Subpart

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## Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Copper Electroplating Operation	<input type="checkbox"/> Rule 1426 (05/02/03)		<input type="checkbox"/> Rule 1426(e)
<input type="checkbox"/> Crude Oil Production	See Oil Well Operations		
<input type="checkbox"/> Crusher	See Nonmetallic Mineral Processing Plants		
<input type="checkbox"/> Dairy Farms and Related Operations	<input type="checkbox"/> Rule 1127 (08/06/04)	<input type="checkbox"/> Rule 1127(h)	<input type="checkbox"/> Rule 1127(g)
<input type="checkbox"/> Degreasers	<input type="checkbox"/> Rule 109 (05/02/03)	<input type="checkbox"/> Rule 109(g)	<input type="checkbox"/> Rule 109(c)
	<input type="checkbox"/> Rule 1122 (05/01/09)	<input type="checkbox"/> Rule 1122(h)	<input type="checkbox"/> Rule 1122(i)
	<input type="checkbox"/> Rule 1171 (05/01/09)	<input type="checkbox"/> Rule 1171(e)	<input type="checkbox"/> Rule 1171(c)(6)
	<input type="checkbox"/> 40 CFR63 SUBPART T	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Dry Cleaning, Perchloroethylene	<input type="checkbox"/> Rule 1421 (12/06/02)	<input type="checkbox"/> Rule 1421(e) & (i)	<input type="checkbox"/> Rule 1421(g) & (h)
<input type="checkbox"/> Dry Cleaning, Petroleum Solvent	<input type="checkbox"/> Rule 109 (05/02/03)	<input type="checkbox"/> Rule 109(g)	<input type="checkbox"/> Rule 109(c)
	<input type="checkbox"/> Rule 1102 (11/17/00)	<input type="checkbox"/> Rule 1102(g)	<input type="checkbox"/> Rule 1102(f)
	<input type="checkbox"/> 40 CFR60 SUBPART JJJ	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Dryers, Mineral Industries	<input type="checkbox"/> 40 CFR60 SUBPART UUU	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Ethylene Oxide Sterilizer	See Sterilizer, Ethylene Oxide		
<input type="checkbox"/> Flanges	See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions		
<input type="checkbox"/> Fluid Catalytic Cracking Unit	<input type="checkbox"/> Rule 218 (05/14/99)	<input type="checkbox"/> AQMD TM 100.1	<input type="checkbox"/> Rule 218(e) & (f)
	<input type="checkbox"/> Rule 1105 (09/01/84)	<input type="checkbox"/> Rule 1105(c)(1)	<input type="checkbox"/> Rule 1105(c)(2)
	<input type="checkbox"/> Rule 1105.1 (11/07/03)	<input type="checkbox"/> Rule 1105.1(f)	<input type="checkbox"/> Rule 1105.1(e)
<input type="checkbox"/> Foundries, Iron and Steel	<input type="checkbox"/> 40 CFR63 SUBPART EEEEE	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Friction Materials Manufacturing	See Manufacturing, Friction Materials		
<input type="checkbox"/> Fugitive Emissions, Benzene	<input type="checkbox"/> Rule 1173 (12/06/02)	<input type="checkbox"/> Rule 1173(j)	<input type="checkbox"/> Rule 1173(i)
	<input type="checkbox"/> 40 CFR61 SUBPART L	See Applicable Subpart	See Applicable Subpart
	<input type="checkbox"/> 40 CFR61 SUBPART V	See Applicable Subpart	See Applicable Subpart
	<input type="checkbox"/> 40 CFR63 SUBPART R	See Applicable Subpart	See Applicable Subpart
	<input type="checkbox"/> 40 CFR63 SUBPART CC	See Applicable Subpart	See Applicable Subpart

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## Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Fugitive Emissions, Chemical Plant	<input type="checkbox"/> Rule 466 (10/07/83) <input type="checkbox"/> Rule 466.1 (03/16/84) <input type="checkbox"/> Rule 467 (03/05/82) <input type="checkbox"/> Rule 1173 (02/06/09) <input type="checkbox"/> 40 CFR60 SUBPART VV <input type="checkbox"/> 40 CFR61 SUBPART V <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 466(f) <input type="checkbox"/> Rule 466.1(g) <input type="checkbox"/> Rule 467(f) <input type="checkbox"/> Rule 1173(j) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 466(e) <input type="checkbox"/> Rule 466.1(h) <input type="checkbox"/> Rule 467(e) <input type="checkbox"/> Rule 1173(i) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Fugitive Emissions, Natural Gas Processing Plant	<input type="checkbox"/> Rule 466 (10/07/83) <input type="checkbox"/> Rule 466.1 (03/16/84) <input type="checkbox"/> Rule 467 (03/05/82) <input type="checkbox"/> Rule 1173 (02/06/09) <input type="checkbox"/> 40 CFR60 SUBPART KKK <input type="checkbox"/> 40 CFR61 SUBPART V <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 466(f) <input type="checkbox"/> Rule 466.1(g) <input type="checkbox"/> Rule 467(f) <input type="checkbox"/> Rule 1173(j) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 466(e) <input type="checkbox"/> Rule 466.1(h) <input type="checkbox"/> Rule 467(e) <input type="checkbox"/> Rule 1173(i) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart

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## Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Fugitive Emissions, Oil & Gas Production Facility	<input type="checkbox"/> Rule 466 (10/07/83) <input type="checkbox"/> Rule 466.1 (03/16/84) <input type="checkbox"/> Rule 467 (03/05/82) <input type="checkbox"/> Rule 1173 (02/06/09) <input type="checkbox"/> 40 CFR61 SUBPART V <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 466(f) <input type="checkbox"/> Rule 466.1(g) <input type="checkbox"/> Rule 467(f) <input type="checkbox"/> Rule 1173(j) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 466(e) <input type="checkbox"/> Rule 466.1(h) <input type="checkbox"/> Rule 467(e) <input type="checkbox"/> Rule 1173(i) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Fugitive Emissions, Pipeline Transfer Station	<input type="checkbox"/> Rule 466 (10/07/83) <input type="checkbox"/> Rule 466.1 (03/16/84) <input type="checkbox"/> Rule 467 (03/05/82) <input type="checkbox"/> Rule 1173 (02/06/09) <input type="checkbox"/> 40 CFR61 SUBPART V <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 466(f) <input type="checkbox"/> Rule 466.1(g) <input type="checkbox"/> Rule 467(f) <input type="checkbox"/> Rule 1173(j) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 466(e) <input type="checkbox"/> Rule 466.1(h) <input type="checkbox"/> Rule 467(e) <input type="checkbox"/> Rule 1173(i) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Furnace, Basic Oxygen Process	<input type="checkbox"/> 40 CFR60 SUBPART Na	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Furnace, Electric Arc, For Steel Plants: Constructed After August 17, 1983	<input type="checkbox"/> 40 CFR60 SUBPART AAa	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Furnace, Electric Arc, For Steel Plants: Constructed After Oct. 21, 1974, & On Or Before Aug. 17, 1983	<input type="checkbox"/> 40 CFR60 SUBPART AA	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Furnace, Glass Melting	<input type="checkbox"/> Rule 1117 (01/06/84) <input type="checkbox"/> 40 CFR60 SUBPART CC	<input type="checkbox"/> Rule 1117(c), AQMD TM 7.1 or 100.1 See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Furnace, Lead Melting, Automotive Batteries	<input type="checkbox"/> Rule 1101 (10/07/77) <input type="checkbox"/> 40 CFR63 SUBPART X	<input type="checkbox"/> AQMD TM 6.1 See Applicable Subpart	See Applicable Subpart

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## Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Gasoline Transfer & Dispensing Operation	<input type="checkbox"/> Rule 461 (06/03/05)	<input type="checkbox"/> Rule 461(f)	<input type="checkbox"/> Rule 461(e)(6) & (e)(7)
<input type="checkbox"/> Glass Manufacturing	See Manufacturing, Glass		
<input type="checkbox"/> Grain Elevators	<input type="checkbox"/> 40 CFR60 SUBPART DD	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Halon-containing Equipment, Use for Technician Training, Testing, Maintenance, Service, Repair, or Disposal	<input type="checkbox"/> 40 CFR82 SUBPART H	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Hazardous Waste Combustors	<input type="checkbox"/> 40 CFR63 SUBPART EEE	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Heater, Asphalt Pavement	<input type="checkbox"/> Rule 1120 (08/04/78)	<input type="checkbox"/> AQMD Visible Emissions, AQMD TM 6.2	<input type="checkbox"/> Rule 1120(f)
<input type="checkbox"/> Heaters, Petroleum Refinery Process	<input type="checkbox"/> Rule 429 (12/21/90) <input type="checkbox"/> Rule 431.1 (06/12/98) <input type="checkbox"/> Rule 1146 (09/05/08) <input type="checkbox"/> 40 CFR60 SUBPART J <input type="checkbox"/> 40 CFR63 SUBPART DDDDD	N/A <input type="checkbox"/> Rule 431.1(f) <input type="checkbox"/> Rule 1146(d) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 429(d) <input type="checkbox"/> Rule 431.1(d) & (e) <input type="checkbox"/> Rule 1146(c)(6) & (c)(7) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Heaters, Process	See Boilers		
<input type="checkbox"/> Incinerators	<input type="checkbox"/> 40 CFR60 SUBPART E <input type="checkbox"/> 40 CFR60 SUBPART CCCC	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Inorganic Arsenic Emissions, Arsenic Trioxide & Metallic Arsenic Production Facilities	<input type="checkbox"/> 40 CFR61 SUBPART P	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Internal Combustion Engines, Reciprocating	<input type="checkbox"/> Rule 1110.2 (07/09/10) <input type="checkbox"/> 40 CFR60 SUBPART IIII and JJJJ <input type="checkbox"/> 40 CFR63 SUBPART ZZZZ	Rule 1110.2(g) See Applicable Subpart See Applicable Subpart	Rule 1110.2(f) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Kiln, Cement Plant	<input type="checkbox"/> Rule 1112 (06/06/86) <input type="checkbox"/> Rule 1112.1 (12/04/09) <input type="checkbox"/> 40 CFR60 SUBPART F	N/A N/A See Applicable Subpart	N/A N/A See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Landfills	<input type="checkbox"/> Rule 1150 (10/15/82) <input type="checkbox"/> Rule 1150.1 (03/17/00) <input type="checkbox"/> 40 CFR60 SUBPART WWW <input type="checkbox"/> 40 CFR63 SUBPART AAAA	<input type="checkbox"/> Rule 1150.1(j) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1150.1(e) & (f) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Lead Acid Battery Manufacturing Plants	See Manufacturing, Lead Acid Battery		
<input type="checkbox"/> Lead Electroplating Operation	<input type="checkbox"/> Rule 1426 (05/02/03)		<input type="checkbox"/> Rule 1426(e)
<input type="checkbox"/> Manufacturing, Asphalt Processing & Asphalt Roofing	<input type="checkbox"/> Rule 470 (05/07/76) <input type="checkbox"/> Rule 1108 (02/01/85) <input type="checkbox"/> Rule 1108.1 (11/04/83) <input type="checkbox"/> 40 CFR60 SUBPART UU <input type="checkbox"/> 40 CFR63 SUBPART LLLLL	N/A <input type="checkbox"/> Rule 1108(b) <input type="checkbox"/> Rule 1108.1 (b) See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Manufacturing, Brick & Structural Clay Products	<input type="checkbox"/> 40 CFR63 SUBPART JJJJJ	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Cement	<input type="checkbox"/> Rule 1156 (03/06/09)	<input type="checkbox"/> Rule 1156(g)	<input type="checkbox"/> Rule 1156(f)
<input type="checkbox"/> Manufacturing, Clay Ceramics	<input type="checkbox"/> 40 CFR63 SUBPART KKKKK	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Coatings & Ink (SIC Code 2851)	<input type="checkbox"/> Rule 1141.1 (11/17/00) <input type="checkbox"/> 40 CFR63 SUBPART HHHHH	N/A See Applicable Subpart	<input type="checkbox"/> Rule 1141.1(c) See Applicable Subpart
<input type="checkbox"/> Manufacturing, Consumer Product	<input type="checkbox"/> Title 17 CCR 94500		
<input type="checkbox"/> Manufacturing, Food Product	<input type="checkbox"/> Rule 1131 (06/06/03)	<input type="checkbox"/> Rule 1131(e)	<input type="checkbox"/> Rule 1131(d)
<input type="checkbox"/> Manufacturing, Friction Materials	<input type="checkbox"/> 40 CFR63 SUBPART QQQQQ	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Glass	<input type="checkbox"/> Rule 1117 (01/06/84) <input type="checkbox"/> 40 CFR60 SUBPART CC <input type="checkbox"/> 40 CFR61 SUBPART N	<input type="checkbox"/> Rule 1117(c), AQMD TM 7.1 or 100.1 See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Manufacturing, Hydrochloric Acid	<input type="checkbox"/> 40 CFR63 SUBPART NNNNN	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Lead-Acid Battery	<input type="checkbox"/> 40 CFR60 SUBPART KK	See Applicable Subpart	See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Manufacturing, Lime	<input type="checkbox"/> 40 CFR63 SUBPART AAAAA	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Magnetic Tape Industry	<input type="checkbox"/> 40 CFR60 SUBPART SSS <input type="checkbox"/> 40 CFR63 SUBPART EE	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Manufacturing, Miscellaneous Organic Chemical	<input type="checkbox"/> 40 CFR63 SUBPART FFFF	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Nitric Acid	<input type="checkbox"/> Rule 218 (05/14/99) <input type="checkbox"/> Rule 1159 (12/06/85) <input type="checkbox"/> 40 CFR60 SUBPART G	<input type="checkbox"/> AQMD TM 100.1 <input type="checkbox"/> AQMD TM 7.1 or 100.1 See Applicable Subpart	<input type="checkbox"/> Rule 218(e) & (f)  See Applicable Subpart
<input type="checkbox"/> Manufacturing, Plywood & Composite Wood Products	<input type="checkbox"/> Rule 1137 (02/01/02) <input type="checkbox"/> 40 CFR63 SUBPART DDDD	N/A See Applicable Subpart	<input type="checkbox"/> Rule 1137(e) See Applicable Subpart
<input type="checkbox"/> Manufacturing, Polymer Industry	<input type="checkbox"/> 40 CFR60 SUBPART DDD <input type="checkbox"/> 40 CFR63 SUBPART W <input type="checkbox"/> 40 CFR63 SUBPART J	See Applicable Subpart See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Manufacturing, Polymeric Cellular Foam	<input type="checkbox"/> Rule 1175 (09/07/07) <input type="checkbox"/> 40 CFR63 SUBPART UUUU	<input type="checkbox"/> Rule 1175(f) See Applicable Subpart	<input type="checkbox"/> Rule 1175(e) See Applicable Subpart
<input type="checkbox"/> Manufacturing, Products Containing Halon Blends	<input type="checkbox"/> 40 CFR82 SUBPART H	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Products Containing Organic Solvents	<input type="checkbox"/> Rule 443.1 (12/05/86)	N/A	N/A
<input type="checkbox"/> Manufacturing, Products Containing Ozone Depleting Substances (ODS)	<input type="checkbox"/> 40 CFR82 SUBPART A <input type="checkbox"/> 40 CFR82 SUBPART E	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Manufacturing, Reinforced Plastic Composites	<input type="checkbox"/> 40 CFR63 SUBPART WWWWW	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Refractory Products	<input type="checkbox"/> 40 CFR63 SUBPART SSSSS	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Resin	<input type="checkbox"/> Rule 1141 (11/17/00) <input type="checkbox"/> 40 CFR63 SUBPART W	<input type="checkbox"/> Rule 1141(d) See Applicable Subpart	<input type="checkbox"/> Rule 1141(c) See Applicable Subpart
<input type="checkbox"/> Manufacturing, Rubber Tire	<input type="checkbox"/> 40 CFR63 SUBPART XXXX	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Semiconductors	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 1164 (01/13/95) <input type="checkbox"/> Rule 1171 (05/01/09) <input type="checkbox"/> 40 CFR63 SUBPART BBBB	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 1164(e) <input type="checkbox"/> Rule 1171(e) See Applicable Subpart	<input type="checkbox"/> Rule 109(c) <input type="checkbox"/> Rule 1164(c)(5) <input type="checkbox"/> Rule 1171(c)(6) See Applicable Subpart
<input type="checkbox"/> Manufacturing, Solvent	<input type="checkbox"/> Rule 443 (05/07/76)	N/A	N/A

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Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Manufacturing, Sulfuric Acid	<input type="checkbox"/> Rule 469 (02/13/81) <input type="checkbox"/> 40 CFR60 SUBPART H <input type="checkbox"/> 40 CFR60 SUBPART Cd	<input type="checkbox"/> AQMD TM 6.1 or 6.2 See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Manufacturing, Surfactant	<input type="checkbox"/> Rule 1141.2 (01/11/02)	<input type="checkbox"/> Rule 1141.2(e) <input type="checkbox"/> AQMD TM 25.1	
<input type="checkbox"/> Manufacturing, Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes	<input type="checkbox"/> 40 CFR60 SUBPART III <input type="checkbox"/> 40 CFR60 SUBPART NNN	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Manufacturing, Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes	<input type="checkbox"/> 40 CFR60 SUBPART RRR	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Vinyl Chloride	<input type="checkbox"/> 40 CFR61 SUBPART F	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manufacturing, Water Heaters	<input type="checkbox"/> Rule 1121 (09/03/04)	N/A	N/A
<input type="checkbox"/> Manufacturing, Wool Fiberglass Insulation	<input type="checkbox"/> 40 CFR60 SUBPART PPP	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Manure Processing Operations	<input type="checkbox"/> Rule 1127 (08/06/04)	<input type="checkbox"/> Rule 1127(h)	<input type="checkbox"/> Rule 1127(g)
<input type="checkbox"/> Marine Tank Vessel Operations	<input type="checkbox"/> Rule 1142 (07/19/91) <input type="checkbox"/> Rule 1173 (02/06/09) <input type="checkbox"/> 40 CFR63 SUBPART Y	<input type="checkbox"/> Rule 1142(e) <input type="checkbox"/> Rule 1173(j) See Applicable Subpart	<input type="checkbox"/> Rule 1142(h) <input type="checkbox"/> Rule 1173(i) See Applicable Subpart
<input type="checkbox"/> Mercury Emissions	<input type="checkbox"/> 40 CFR61 SUBPART E <input type="checkbox"/> 40 CFR63 SUBPART IIII	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Motor Vehicle Air Conditioners with Ozone Depleting Substances (ODS): Repair, Service, Manufacturing, Maintenance, or Disposal	<input type="checkbox"/> 40 CFR82 SUBPART B <input type="checkbox"/> 40 CFR82 SUBPART F	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Municipal Waste Combustors	<input type="checkbox"/> 40 CFR60 SUBPART Cb <input type="checkbox"/> 40 CFR60 SUBPART Ea <input type="checkbox"/> 40 CFR60 SUBPART Eb	See Applicable Subpart See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Negative Air Machines/HEPA, Asbestos	<input type="checkbox"/> 40 CFR61 SUBPART M	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Nickel Electroplating Operation	<input type="checkbox"/> Rule 1426 (05/02/03)		<input type="checkbox"/> Rule 1426(e)
<input type="checkbox"/> Nonmetallic Mineral Processing Plants	<input type="checkbox"/> Rule 404 (02/07/86) <input type="checkbox"/> Rule 405 (02/07/86) <input type="checkbox"/> 40 CFR60 SUBPART OOO	<input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3 <input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3 See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Off-site Waste and Recovery Operation	<input type="checkbox"/> 40 CFR63 SUBPART DD	See Applicable Subpart	See Applicable Subpart

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Section II - Applicable Requirements, Test Methods, & MRR Requirements			
Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Oil and Gas Well Operation	<input type="checkbox"/> Rule 1148 (11/05/82) <input type="checkbox"/> Rule 1148.1 (03/05/04)	<input type="checkbox"/> AQMD TM 25.1 <input type="checkbox"/> Rule 1148.1 (g)	<input type="checkbox"/> Rule 1148.1 (f)
<input type="checkbox"/> Onshore Natural Gas Processing, SO2 Emissions	<input type="checkbox"/> 40 CFR60 SUBPART LLL	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Open Fires	<input type="checkbox"/> Rule 444 (11/07/08)		
<input type="checkbox"/> Open Storage, Petroleum Coke	<input type="checkbox"/> Rule 403 (06/03/05) <input type="checkbox"/> Rule 403.1 (04/02/04) <input type="checkbox"/> Rule 1158 (06/11/99)	<input type="checkbox"/> Rule 403(d)(4)  <input type="checkbox"/> Rule 1158(h)	<input type="checkbox"/> Rule 403(f) <input type="checkbox"/> Rule 403.1(h) <input type="checkbox"/> Rule 1158(j)
<input type="checkbox"/> Open Storage	<input type="checkbox"/> Rule 403 (06/03/05) <input type="checkbox"/> Rule 403.1 (04/02/04)	<input type="checkbox"/> Rule 403(d)(4)	<input type="checkbox"/> Rule 403(f) <input type="checkbox"/> Rule 403.1(h)
<input type="checkbox"/> Outer Continental Shelf Platform	<input type="checkbox"/> Rule 1183 (03/12/93) <input type="checkbox"/> 40 CFR55	<input type="checkbox"/> 40 CFR55 See Applicable Subpart	<input type="checkbox"/> 40 CFR55 See Applicable Subpart
<input type="checkbox"/> Oven, Commercial Bakery	<input type="checkbox"/> Rule 1153 (01/13/95)	<input type="checkbox"/> Rule 1153(h)	<input type="checkbox"/> Rule 1153(g)
<input type="checkbox"/> Oven, Petroleum Coke	<input type="checkbox"/> Rule 477 (04/03/81)  <input type="checkbox"/> 40 CFR63 SUBPART L <input type="checkbox"/> 40 CFR63 SUBPART CCCCC	<input type="checkbox"/> AQMD Visible Emissions, AQMD TM 5.1, 5.2, or 5.3 See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Ozone Depleting Substances (ODS) or Alternative ODS, Use	<input type="checkbox"/> 40 CFR82 Subpart G	See Applicable Subpart	See Applicable Subpart

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**Section II - Applicable Requirements, Test Methods, & MRR Requirements**

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Petroleum Refineries	<input type="checkbox"/> Rule 218 (05/14/99) <input type="checkbox"/> Rule 465 (08/13/99) <input type="checkbox"/> Rule 468 (10/08/76) <input type="checkbox"/> Rule 469 (02/13/81) <input type="checkbox"/> Rule 1118 (11/04/05) <input type="checkbox"/> Rule 1123 (12/07/90) <input type="checkbox"/> Rule 1189 (01/21/00) <input type="checkbox"/> 40 CFR60 SUBPART J <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR63 SUBPART CC <input type="checkbox"/> 40 CFR63 SUBPART EEEE <input type="checkbox"/> 40 CFR63 SUBPART GGGG <input type="checkbox"/> Title 13 CCR 2250	<input type="checkbox"/> AQMD TM 100.1  <input type="checkbox"/> AQMD TM 6.1 or 6.2 <input type="checkbox"/> AQMD TM 6.1 or 6.2 <input type="checkbox"/> Rule 1118(j) N/A <input type="checkbox"/> Rule 1189(f) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 218(e) & (f)   <input type="checkbox"/> Rule 1118(f), (g), (h), & (i) <input type="checkbox"/> Rule 1123(c) <input type="checkbox"/> Rule 1189(e) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Petroleum Refineries, Fugitive Emissions	<input type="checkbox"/> Rule 1173 (02/06/09) <input type="checkbox"/> Rule 466 (10/07/83) <input type="checkbox"/> Rule 466.1 (03/16/84) <input type="checkbox"/> Rule 467 (03/05/82) <input type="checkbox"/> 40 CFR60 SUBPART GGG <input type="checkbox"/> 40 CFR61 SUBPART V <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 1173(j) <input type="checkbox"/> Rule 466(f) <input type="checkbox"/> Rule 466.1(g) <input type="checkbox"/> Rule 467(f) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1173(i) <input type="checkbox"/> Rule 466(e) <input type="checkbox"/> Rule 466.1(h) <input type="checkbox"/> Rule 467(e) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart

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## Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Petroleum Refineries, Storage Tanks	<input type="checkbox"/> Rule 463 (05/06/05) <input type="checkbox"/> Rule 1178 (04/07/06) <input type="checkbox"/> 40 CFR60 SUBPART K <input type="checkbox"/> 40 CFR60 SUBPART Ka <input type="checkbox"/> 40 CFR60 SUBPART Kb <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC <input type="checkbox"/> 40 CFR63 SUBPART EEEE	<input type="checkbox"/> Rule 463(g) <input type="checkbox"/> Rule 1178(i) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 463(e)(5) <input type="checkbox"/> Rule 1178(f) & (h) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Petroleum Refineries, Wastewater Systems	<input type="checkbox"/> Rule 1176 (09/13/96) <input type="checkbox"/> Rule 464 (12/07/90) <input type="checkbox"/> 40 CFR60 SUBPART QQQ <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 1176(h) N/A See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1176(f) & (g) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Pharmaceuticals & Cosmetics Manufacturing	<input type="checkbox"/> Rule 1103 (03/12/99) <input type="checkbox"/> 40 CFR63 SUBPART GGG	<input type="checkbox"/> Rule 1103(f) See Applicable Subpart	<input type="checkbox"/> Rule 1103(e) See Applicable Subpart
<input type="checkbox"/> Polyester Resin Operation	<input type="checkbox"/> Rule 109 (05/02/03) <input type="checkbox"/> Rule 1162 (07/08/05) <input type="checkbox"/> Rule 1171 (05/01/09)	<input type="checkbox"/> Rule 109(g) <input type="checkbox"/> Rule 1162(f) <input type="checkbox"/> Rule 1171(e)	<input type="checkbox"/> Rule 109(c) <input type="checkbox"/> Rule 1162(e) <input type="checkbox"/> Rule 1171(c)(6)
<input type="checkbox"/> Primary Magnesium Refining	<input type="checkbox"/> 40 CFR63 SUBPART TTTTT	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Printing Press	See Coating Operations		
<input checked="" type="checkbox"/> Publicly Owned Treatment Works Operations	<input checked="" type="checkbox"/> Rule 1179 (03/06/92) <input type="checkbox"/> 40 CFR60 SUBPART O	<input type="checkbox"/> Rule 1179(e) See Applicable Subpart	<input type="checkbox"/> Rule 1179(c) & (d) See Applicable Subpart
<input type="checkbox"/> Pumps	See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions		

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## Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Recycling & Recovery Equipment for Ozone Depleting Substances (ODS),	<input type="checkbox"/> 40 CFR82 SUBPART F	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Refrigerant Reclaimers for Ozone Depleting Substances (ODS)	<input type="checkbox"/> 40 CFR82 SUBPART F	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Rendering Plant	<input type="checkbox"/> Rule 472 (05/07/76)	N/A	<input type="checkbox"/> Rule 472(b)
<input type="checkbox"/> Rock Crushing	See Nonmetallic Mineral Processing Plants		
<input type="checkbox"/> Secondary Aluminum Production	<input type="checkbox"/> 40 CFR63 SUBPART LL	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Semiconductor Manufacturing	See Manufacturing, Semiconductors		
<input type="checkbox"/> Sewage Treatment Plants	See Publicly Owned Treatment Works Operation		
<input type="checkbox"/> Site Remediation	<input type="checkbox"/> 40 CFR63 SUBPART GGGGG	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Smelting, Primary Copper	<input type="checkbox"/> 40 CFR63 SUBPART QQQ	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Smelting, Secondary Lead	<input type="checkbox"/> 40 CFR60 SUBPART L	See Applicable Subpart	See Applicable Subpart
	<input type="checkbox"/> 40 CFR63 SUBPART X	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Soil Decontamination / Excavation	<input type="checkbox"/> Rule 1166 (05/11/01)	<input type="checkbox"/> Rule 1166(e)	<input type="checkbox"/> Rule 1166(c)(1)(C)
	<input type="checkbox"/> 40 CFR63 SUBPART GGGGG	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Spray Booth	See Coating Operations		
<input type="checkbox"/> Sterilizer, Ethylene Oxide	<input type="checkbox"/> 40 CFR63 SUBPART O	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Storage Tank, Degassing Operation	<input type="checkbox"/> Rule 1149 (07/14/95)	See Applicable Subpart	See Applicable Subpart
	<input type="checkbox"/> 40 CFR63 SUBPART CC		

### KEY ABBREVIATIONS:

Reg. = AQMD Regulation  
Rule = AQMD Rule

App. = Appendix  
AQMD TM = AQMD Test Method

CFR = Code of Federal Regulations  
CCR = California Code of Regulations

## Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Storage Tank, Greater Than 19,815 Gallon Capacity	<input type="checkbox"/> Rule 463 (05/06/05) <input type="checkbox"/> Rule 1178 (04/07/06) <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR60 SUBPART K <input type="checkbox"/> 40 CFR60 SUBPART Ka <input type="checkbox"/> 40 CFR60 SUBPART Kb <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40CFR63 SUBPART BBBB <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 463(g) <input type="checkbox"/> Rule 1178(i) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 463(e)(5) <input type="checkbox"/> Rule 1178(h) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Synthetic Fiber Production Facilities	<input type="checkbox"/> 40 CFR60 SUBPART HHH	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Taconite Iron Ore Processing Facilities	<input type="checkbox"/> 40 CFR63 SUBPART RRRRR	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Turbine, Stationary Gas-Fired	<input type="checkbox"/> Rule 1134 (08/08/97) <input type="checkbox"/> Rule 475 (08/07/78) <input type="checkbox"/> 40 CFR60 SUBPART GG <input type="checkbox"/> 40 CFR60 SUBPART KKKK <input type="checkbox"/> 40 CFR63 SUBPART YYYY	<input type="checkbox"/> Rule 1134(e) & (g) <input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3 See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1134(d) & (f) See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Turbine, Stationary Oil-Fired	<input type="checkbox"/> 40 CFR63 SUBPART YYYY	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Valves	See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions		
<input type="checkbox"/> Vessel, Refinery Process	<input type="checkbox"/> Rule 1123 (12/07/90)	N/A	<input type="checkbox"/> Rule 1123(c)
<input type="checkbox"/> Vessels	See Petroleum Refineries, Fugitive Emissions		

### KEY ABBREVIATIONS:

Reg. = AQMD Regulation  
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## Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
<input type="checkbox"/> Wastewater, Chemical Plant	<input type="checkbox"/> Rule 464 (12/07/90) <input type="checkbox"/> Rule 1176 (09/13/96) <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR63 SUBPART CC	N/A <input type="checkbox"/> Rule 1176(h) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1176(f) & (g) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Wastewater Treatment, Other	<input type="checkbox"/> Rule 464 (12/07/90) <input type="checkbox"/> Rule 1176 (09/13/96)	N/A <input type="checkbox"/> Rule 1176(h)	<input type="checkbox"/> Rule 1176(f) & (g)
<input type="checkbox"/> Woodworking Operations	<input type="checkbox"/> Rule 1137 (02/01/02)	N/A	<input type="checkbox"/> Rule 1137(e)

### KEY ABBREVIATIONS:

Reg. = AQMD Regulation  
 Rule = AQMD Rule

App. = Appendix  
 AQMD TM = AQMD Test Method

CFR = Code of Federal Regulations  
 CCR = California Code of Regulations

Complete this section only if there is a specific requirement (i.e., rule reference, test method, or MRR requirement) that is:

- NOTES:**

- \* If this section is completed as part of the initial Title V application & there is no device number assigned, refer to the existing permit or application number in this column.

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**Section IV - SIP-Approved Rules That Are Not The Most Current AQMD Rules**

Check off each SIP-Approved Rule as it applies to the facility. Use the blanks at the end of this form to fill-in new items.

SIP - Approved Rule	Adoption/ Amendment Date	Check (✓) If Applies	SIP - Approved Rule	Adoption/ Amendment Date	Check (✓) If Applies
401	03/02/84	<input type="checkbox"/>			<input type="checkbox"/>
431.2	05/04/90	<input type="checkbox"/>			<input type="checkbox"/>
461	6/3/05	<input type="checkbox"/>			<input type="checkbox"/>
466.1	05/02/80	<input type="checkbox"/>			<input type="checkbox"/>
469	04/07/76	<input type="checkbox"/>			<input type="checkbox"/>
475	10/08/76	<input type="checkbox"/>			<input type="checkbox"/>
1112	01/06/84	<input type="checkbox"/>			<input type="checkbox"/>
1112.1	2/7/86	<input type="checkbox"/>			<input type="checkbox"/>
1113	11/08/96	<input type="checkbox"/>			<input type="checkbox"/>
1117	1/6/83	<input type="checkbox"/>			<input type="checkbox"/>
1122	07/11/97	<input type="checkbox"/>			<input type="checkbox"/>
1132	03/05/04	<input type="checkbox"/>			<input type="checkbox"/>
1140	02/01/80	<input type="checkbox"/>			<input type="checkbox"/>
1146	11/17/00	<input type="checkbox"/>			<input type="checkbox"/>
1146.1	5/13/94	<input type="checkbox"/>			<input type="checkbox"/>
1151	12/11/98	<input type="checkbox"/>			<input type="checkbox"/>
1158	6/11/99	<input type="checkbox"/>			<input type="checkbox"/>
1162	11/17/00	<input type="checkbox"/>			<input type="checkbox"/>
1166	07/14/95	<input type="checkbox"/>			<input type="checkbox"/>
1171	11/07/03	<input type="checkbox"/>			<input type="checkbox"/>
1175	05/13/94	<input type="checkbox"/>			<input type="checkbox"/>
1186	09/10/99	<input type="checkbox"/>			<input type="checkbox"/>

**Section V - AQMD Rules That Are Not SIP-Approved (Continued on Following Page)**

Check off each AQMD Rule as it applies to the facility. Use the blanks at the end of this form to fill-in new items.

Non SIP - Approved Rule	Adoption/ Amendment Date	Check (✓) If Applies	Non SIP - Approved Rule	Adoption/ Amendment Date	Check (✓) If Applies
53 Los Angeles Co.	N/A	<input type="checkbox"/>	1192	06/16/00	<input type="checkbox"/>
53 Orange Co.	N/A	<input type="checkbox"/>	1193	07/09/10	<input type="checkbox"/>
53 Riverside Co.	N/A	<input type="checkbox"/>	1194	10/20/00	<input type="checkbox"/>
53 San Bernardino Co.	N/A	<input type="checkbox"/>	1195	05/05/06	<input type="checkbox"/>
53A San Bernardino Co.	N/A	<input type="checkbox"/>	1196	06/06/08	<input type="checkbox"/>
402	05/07/76	<input type="checkbox"/>	1401	09/10/10	<input type="checkbox"/>
429	12/21/90	<input type="checkbox"/>	1401.1	11/04/05	<input type="checkbox"/>
430	07/12/96	<input type="checkbox"/>	1402	03/04/05	<input type="checkbox"/>
441	05/07/76	<input type="checkbox"/>	1403	10/05/07	<input type="checkbox"/>
473	05/07/76	<input type="checkbox"/>	1404	04/06/90	<input type="checkbox"/>
477	04/03/81	<input type="checkbox"/>	1405	01/04/91	<input type="checkbox"/>
480	10/07/77	<input type="checkbox"/>	1406	07/08/94	<input type="checkbox"/>
1109	08/05/88	<input type="checkbox"/>	1407	07/08/94	<input type="checkbox"/>
1110.2	07/09/10	<input type="checkbox"/>	1411	03/01/91	<input type="checkbox"/>
1116.1	10/20/78	<input type="checkbox"/>	1414	05/03/91	<input type="checkbox"/>
1127	08/06/04	<input type="checkbox"/>	1415	10/14/94	<input type="checkbox"/>
1143	07/09/10	<input type="checkbox"/>	1418	09/10/99	<input type="checkbox"/>
1147	12/05/08	<input type="checkbox"/>	1420	09/11/92	<input type="checkbox"/>
1148.1	03/05/04	<input type="checkbox"/>	1420.1	11/05/10	<input type="checkbox"/>
1150	10/15/82	<input type="checkbox"/>	1421	12/06/02	<input type="checkbox"/>
1155	12/04/09	<input type="checkbox"/>	1425	03/16/01	<input type="checkbox"/>
1156	03/06/09	<input type="checkbox"/>	1426	05/02/03	<input type="checkbox"/>
1157	09/08/06	<input type="checkbox"/>			<input type="checkbox"/>
1163	06/07/85	<input type="checkbox"/>			<input type="checkbox"/>
1170	05/06/88	<input type="checkbox"/>			<input type="checkbox"/>
1183	03/12/93	<input type="checkbox"/>			<input type="checkbox"/>
1186.1	01/09/09	<input type="checkbox"/>			<input type="checkbox"/>
1191	06/16/00	<input type="checkbox"/>			<input type="checkbox"/>

**Section V - AQMD Rules That Are Not SIP-Approved (Continued on Following Page)**

Check off each AQMD Rule as it applies to the facility. Use the blanks at the end of this form to fill-in new items.

Non SIP - Approved Rule	Adoption/ Amendment Date	Check (✓) If Applies	Non SIP - Approved Rule	Adoption/ Amendment Date	Check (✓) If Applies
1469	12/05/08	<input type="checkbox"/>	2009.1	05/11/01	<input type="checkbox"/>
1469.1	03/04/05	<input type="checkbox"/>	2501	05/09/97	<input type="checkbox"/>
1470	06/01/07	<input type="checkbox"/>	2506	12/10/99	<input type="checkbox"/>
1472	03/07/08	<input type="checkbox"/>			<input type="checkbox"/>
2009	01/07/05	<input type="checkbox"/>			<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>

SCAQI PERMIT PROCESSING SYSTEM (PS)  
FEE DATA - SUMMARY SHEET

Application No : 520795

IRS/SS No:

Previous Application No:

Previous Permit No:

Company Name : ORANGE COUNTY SANITATION DISTRICT  
Equipment Street: 10844 ELLIS AVE , FOUNTAIN VALLEY CA 92708  
Equipment Desc : Title V Permit Revision

Facility ID: 17301

Equipment Type : BASIC

B-CAT NO. : 555007

Facility Zone : 18

C-CAT NO:

Deemed Compl. Date:

00

5/7/2011

Fee Charged by: B-CAT

Fee Schedule: Z

Public Notice: NO

Evaluation Type : DE MINIMIS PERMIT REVISION

Disposition : Approve Title V Application, Recommended by Engineer

Lead Appl. No :

Small Business: ☐

Higher Fees for Failing  
to Obtain a Permit: ☐

Identical Permit Unit: ☐

Air quality Analysis		\$0.00	Filing Fee Paid:	\$0.00
E.I.R		\$0.00	Permit Processing Fee Paid:	\$861.52
Health Risk Assessment		\$0.00	Permit Processing Fee Calculated*:	\$861.52
Significant Project		\$0.00	Permit Processing Fee Adjustment:	\$0.00
Expedited Processing	Hours: 0.00	\$0.00		
Source Test Review	Hours: 0.00	\$0.00		
Time & Material	Hours: 0.00	\$0.00		
			Total Additional Fee:	\$0.00
			Additional Charge:	\$0.00

COMMENTS: GROUPED WITH 520793 & 520794.

RECOMMENDED BY: GAURANG RAWAL

DATE: 08/18/2011

REVIEWED BY: CST

DATE: 8/22/12

\* ADJUSTED FOR SMALL BUSINESS, IDENTICAL EQUIPMENT AND P/O NO P/C PENALTY





# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • www.aqmd.gov

August 22, 2012

Mr. James D. Ruth  
General Manager  
Orange County Sanitation District  
PO Box 8127  
Fountain Valley, CA 92728-8127

Subject: De Minimis Significant Revision to Title V Permit for Orange County Sanitation District (OCSD), Sewage Treatment Plant, Fountain Valley (ID# 017301)

Dear Mr. Ruth,

Enclosed please find the revised Title Page, Table of Contents, Section D and section H of the Title V Permit for OCSD, sewage treatment plant located at 10844 Ellis Avenue, Fountain Valley, CA, in Orange County. On June 19, 2012, the South Coast Air Quality Management District (AQMD) issued draft permit for Environmental Protection Agency's (EPA) review, and no comments were received from EPA. No public notice was required for this revision.

The revised Section D and Section H reflect the approval of the permits as shown below.

## SECTION D, REVISION 3, PERMIT TO OPERATE

Appl. No.	Equipment	Description
512830	Storage Tank, Hydrochloric Acid	Existing storage tank, fixed roof, for hydrochloric acid, 8,000 –gallon, venting to a passive activated carbon drum.
512831	Storage Tank, Hydrochloric Acid	Existing storage tank, fixed roof, for hydrochloric acid, 2,000 –gallon, venting to a passive activated carbon drum.

## SECTION H, REVISION 4, PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

Appl. No.	Equipment	Description
520793	Odor Control equipment, 40, 000 cfm capacity	Odor control equipment consisting of multi-stage chemical scrubbers and GAC system treating 40,000 cfm exhaust from Sludge Thickening and Dewatering Building.
520794	Sewage Treatment Plant > 5 MGD, anaerobic	Modifications to sewage treatment plant > 5 MGD, anaerobic, (PC 453210) by installations of New Sludge Thickening and Dewatering Facility.

Mr. James D. Ruth  
General Manager  
Title V Permit Revision  
OCSD, Facility ID. 17301

-2-

August 22, 2012

Please review the attached pages carefully. Insert the enclosed section in your Title V Facility Permit and discard the earlier versions. Questions concerning this revised permit should be directed to Mr. Gaurang Rawal at (909) 396-2543.

The operation of your facility is bound by the conditions and/or requirements stated in your Facility Permit to Operate. If you determine any administrative errors, please contact Mr. Gaurang Rawal at the above number within 30 days of receipt of your permit.

Sincerely,



Jay Chen, P.E.  
Senior AQ Engineering Manager  
Refinery and Waste Management Permitting

JC: CDT: GCR

cc: w/ enclosure  
Geraldo Rios, EPA Region IX  
Compliance  
Title V Central File  
Title V Revision A/N 520795



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
21865 Copley Drive, Diamond Bar, CA 91765

Title Page	
Facility ID:	017301
Revision #:	5
Date:	August 16, 2012

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## FACILITY PERMIT TO OPERATE

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**ORANGE COUNTY SANITATION DISTRICT  
10844 ELLIS AVE  
FOUNTAIN VALLEY, CA 92708**


### NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR A COPY THEREOF MUST BE KEPT AT THE LOCATION FOR WHICH IT IS ISSUED.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT SHALL NOT BE CONSTRUED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF ANY OTHER FEDERAL, STATE OR LOCAL GOVERNMENTAL AGENCIES.

Barry R. Wallerstein, D. Env.  
EXECUTIVE OFFICER

By   
Mohsen Nazemi, P.E.

 Deputy Executive Officer  
Engineering & Compliance



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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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### TABLE OF CONTENTS

Section	Description	Revision #	Date Issued
A	Facility Information	0	01/12/2009
B	RECLAIM Annual Emission Allocation	0	01/12/2009
C	Facility Plot Plan	TO BE DEVELOPED	
D	Facility Description and Equipment Specific Conditions	3	08/16/2012
E	Administrative Conditions	0	01/12/2009
F	RECLAIM Monitoring and Source Testing Requirements	0	01/12/2009
G	Recordkeeping and Reporting Requirements for RECLAIM Sources	0	01/12/2009
H	Permit To Construct and Temporary Permit to Operate	4	08/16/2012
I	Compliance Plans & Schedules	0	01/12/2009
J	Air Toxics	0	01/12/2009
K	Title V Administration	0	01/12/2009
Appendix			
A	NOx and SOx Emitting Equipment Exempt From Written Permit Pursuant to Rule 219	0	01/12/2009
B	Rule Emission Limits	0	01/12/2009



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## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

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### **Facility Equipment and Requirements (Section D)**

This section consists of a table listing all permitted equipment at the facility, facility wide requirements, all individual Permits to Construct and Permits to Operate issued to various equipment at the facility, and Rule 219-exempt equipment subject to source-specific requirements. Each permit and Rule 219-exempt equipment will list operating conditions including periodic monitoring requirements, and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMITTED EQUIPMENT LIST

THE FOLLOWING IS A LIST OF ALL PERMITS TO CONSTRUCT AND PERMITS TO OPERATE AT THIS FACILITY:

Application Number	Permit to Operate Number	Equipment Description	Page Number
299283	G9737	SCRUBBER, ODOR CONTROL FOR PRIMARY BASINS	4
06049A	M30530	GAS TURBINE, EMERGENCY, $\geq 0.3$ MW	6
06050A	M30531	GAS TURBINE, EMERGENCY, $\geq 0.3$ MW	7
133994	R-D11231	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	8
133995	R-D11232	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	9
134619	R-D11233	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	10
135464	R-D11234	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	11
13973X	743973	SPRAY BOOTH PAINT AND SOLVENT	12
223413	F00876	BOILER (5-20 MMBTU/HR) DIGESTER GAS	13
356878	F66565	SEWAGE TREATMENT (>5 MG/D) ANEROBIC	15
386679	F40906	SCRUBBER, ODOR CONTROL FOR DEWATERING	18
408166	F55982	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	19
428945	F68430	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	20
429662	F71054	FLARE, ENCLOSED LANDFILL/DIGESTER GAS	21
444109	F99404	SCRUBBER, ODOR CONTROL FOR HEADWORKS	26
459958	F94280	ODOR CONTROL UNIT FOR ELLIS PUMP STATION	28
486760	G2955	I C E (>500 HP) NAT & DIGESTER GAS	30
486792	G2956	I C E (>500 HP) NAT & DIGESTER GAS	33
486793	G2957	I C E (>500 HP) NAT & DIGESTER GAS	36
512830	G19907	STORAGE TANK, HCI, 8000 GALLON CAPACITY, HCI	39
512831	G19908	STORAGE TANK, HCI, 2000 GALLON CAPACITY, HCI	40

**NOTE:** APPLICATIONS THAT ARE STILL BEING PROCESSED AND HAVE NOT BEEN ISSUED PERMITS TO CONSTRUCT OR PERMITS TO OPERATE WILL NOT BE FOUND IN THIS TITLE V PERMIT.



## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

### **FACILITY WIDE CONDITION (S)**

**Condition(s):**

1. EXCEPT FOR OPEN ABRASIVE BLASTING OPERATIONS, THE OPERATOR SHALL NOT DISCHARGE INTO THE ATMOSPHERE FROM ANY SINGLE SOURCE OF EMISSIONS WHATSOEVER ANY AIR CONTAMINANT FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR WHICH IS:
  - A. AS DARK OR DARKER IN SHADE AS THAT DESIGNATED NO. 1 ON THE RINGLEMANN CHART, AS PUBLISHED BY THE UNITED STATES BUREAU OF MINES; OR
  - B. OF SUCH OPACITY AS TO OBSCURE AN OBSERVER'S VIEW TO A DEGREE EQUAL TO OR GREATER THAN DOES SMOKE DESCRIBED IN SUBPARAGRAPH (A) OF THIS CONDITION.  
[RULE 401]
2. THE OPERATOR SHALL NOT COMBUST DIGESTER GAS CONTAINING SULFUR COMPOUNDS IN EXCESS OF 40 PPMV CALCULATED AS HYDROGEN SULFIDE AVERAGED DAILY.  
[RULE 431.1]
3. THE OPERATOR SHALL NOT USE FUEL OIL CONTAINING SULFUR COMPOUNDS IN EXCESS OF 15 PPM BY WEIGHT AS SUPPLIED BY THE SUPPLIER.  
[RULE 431.2, 1470]
4. THE OWNER/OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART VVV - NON-INDUSTRIAL POTW PLANT NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) AND ALL APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART ZZZZ - STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES NESHAP.  
[40 CFR 63 SUBPART VVV, AND 40 CFR 63 SUBPART ZZZZ]
5. THE OPERATOR SHALL MEASURE THE SULFUR CONTENT OF THE DIGESTER GAS ACCORDING TO THE FOLLOWING:
  - A. FOR READINGS UP TO 36 PPM AS H<sub>2</sub>S, DAILY ANALYSIS OF THE DIGESTER GAS FOR H<sub>2</sub>S, USING COLORIMETRIC TUBES, AND WEEKLY ANALYSIS OF THE DIGESTER GAS BY AQMD METHOD 307 - TOTAL SULFUR COMPOUNDS IN FUEL GAS BY GAS CHROMATOGRAPHY AND SULFUR CHEMILUMINESCENCE DETECTOR.
  - B. FOR READINGS ABOVE 36 PPM AS H<sub>2</sub>S, DAILY ANALYSIS OF THE DIGESTER GAS FOR H<sub>2</sub>S BY AQMD METHOD 307 - TOTAL SULFUR COMPOUNDS IN FUEL GAS BY GAS CHROMATOGRAPHY AND SULFUR CHEMILUMINESCENCE DETECTOR. A MINIMUM OF THREE CONSECUTIVE DAILY SAMPLES ARE REQUIRED TO DEMONSTRATE THE TOTAL SULFUR CONTENT IS BELOW 36 PPM.  
[RULE 431.1]



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. G9737  
A/N 299283

#### Equipment Description:

AIR POLLUTION CONTROL SYSTEM (PRIMARY BASINS) CONSISTING OF:

1. FOUR SCRUBBERS, NOS. 5 THROUGH 8, EACH VERTICAL TYPE, PACKED TOWER, 10'-0" DIA. X 33'-0" H., WITH ASSOCIATED PUMPS.
2. CHEMICAL FEED WHICH MAY INCLUDE CAUSTIC, HYDROGEN PEROXIDE OR BLEACH..
3. AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H<sub>2</sub>S) MONITORING SYSTEM.
4. EXHAUST SYSTEM WITH ASSOCIATED TWO-SPEED BLOWERS, 116, 200 CFM MAXIMUM FOUL-AIR VENTILATION RATE, VENTING PRIMARY SEDIMENTATION BASINS NOS. 1 THROUGH 31.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]





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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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4. THIS EQUIPMENT SHALL BE IN OPERATION, WHEN THE BASIC EQUIPMENT DESCRIBED UNDER PC 453210 ARE IN OPERATION, TO MAINTAIN THE SCRUBBER OUTLET H<sub>2</sub>S CONCENTRATIONS SPECIFIED UNDER CONDITION NO. 8, AS MEASURED BY THE AUTOMATIC CHEMICAL FEED AND H<sub>2</sub>S MONITORING SYSTEM EXCEPT DURING UNFORESEEN AND ROUTINE MAINTENANCE WORK OR POWER OUTAGE IN THE PLANT, THAT REQUIRES THE SCRUBBERS TO BE SHUTDOWN FOR A PERIOD NOT TO EXCEED 10 HOURS PER INCIDENT PER EQUIPMENT AND 50 HOURS PER YEAR PER EQUIPMENT.  
[RULE 402]
5. WHEN THE SCRUBBERS ARE IN OPERATION, AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H<sub>2</sub>S) MONITORING SYSTEM SHALL BE IN OPERATION AND MAINTAINED TO RECORD THE SCRUBBER OUTLET H<sub>2</sub>S CONCENTRATION, IN PPMV, EXCEPT DURING SHUTDOWN FOR MAINTENANCE. THE H<sub>2</sub>S MONITORING SYSTEM SHALL BE CALIBRATED PURSUANT TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.  
[RULE 402]
6. WHEN THE AUTOMATIC CHEMICAL FEED AND H<sub>2</sub>S MONITORING SYSTEM IS NOT OPERATING, THE PH OF THE SCRUBBING OR RECYCLING LIQUID, MAKEUP WATER FLOW RATE (GPM), DIFFERENTIAL PRESSURE DROP (IN INCHES OF WATER COLUMN), SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATIONS. THE OPERATING PARAMETERS AS DESCRIBED, AND THE SCRUBBER OUTLET H<sub>2</sub>S CONCENTRATION SHALL BE MEASURED AND RECORDED AT LEAST ONCE PER SHIFT.  
[RULE 402]
7. WHEN THE SCRUBBERS ARE IN OPERATION, THE DAILY AVERAGE CONCENTRATION OF SULFUR COMPOUNDS, CALCULATED AS H<sub>2</sub>S MEASURED AT THE OUTLET OF EACH SCRUBBER SHALL NOT EXCEED 2 PPMV AND 3 PPMV WHEN THE EXHAUST BLOWER IS OPERATING AT LOW AND HIGH SPEED, RESPECTIVELY.  
[RULE 402]
8. RECORDS SHALL BE KEPT AND MAINTAINED FOR DAILY AVERAGE H<sub>2</sub>S CONCENTRATION, IN PPMV, AT THE OUTLET OF EACH SCRUBBER IN OPERATION. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 204]



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. M30530  
A/N 06049A

#### Equipment Description:

GAS TURBINE #1, SOLAR, MODEL NO. GSE 1000, 14,000,000 BTU PER HOUR, OIL FIRED, DRIVING A 900 KW EMERGENCY ELECTRIC GENERATOR.

#### Conditions:

1. THIS EMERGENCY STAND BY EQUIPMENT MAY ONLY OPERATE FOR MAINTENANCE TESTING OF THE EQUIPMENT, DURING MAINTENANCE AND RELIABILITY TESTING OF PLANT NO. 1 OR PLANT NO. 2 CENTRAL POWER GENERATION SYSTEMS, DURING EXCESS POWER DEMANDS, OR DURING A UTILITY POWER OUTAGE.  
[RULE 1304(a)(4)-MODELING & OFFSET EXEMPTION]
2. THIS EQUIPMENT SHALL BE OPERATED LESS THAN 199 HOURS PER CALENDAR YEAR.  
[RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

#### Periodic Monitoring:

3. THE OPERATOR SHALL INSTALL AND MAINTAIN A NON-RESETABLE ELAPSED TIME METER TO ACCURATELY INDICATE THE ELAPSED OPERATING TIME OF THE EQUIPMENT.  
[RULE 3004 (a)(4)]
4. RECORDS OF DAILY HOURS OF ENGINE OPERATION SHALL BE MAINTAINED AND KEPT FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO THE EXECUTIVE OFFICER UPON REQUEST.  
[RULE 3004(a) (4)]

#### Emissions And Requirements:

5. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

SULFUR COMPOUNDS: 500 PPMV, CALCULATED AS SO<sub>2</sub>  
[RULE 53]



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. M30531  
A/N 06050A

#### Equipment Description:

GAS TURBINE #2, SOLAR, MODEL NO. GSE 1000, 14,000,000 BTU PER HOUR, OIL FIRED, DRIVING A 900 KW EMERGENCY ELECTRIC GENERATOR.

#### Conditions:

1. THIS EMERGENCY STAND BY EQUIPMENT MAY ONLY OPERATE FOR MAINTENANCE TESTING OF THE EQUIPMENT, DURING MAINTENANCE AND RELIABILITY TESTING OF PLANT NO. 1 OR PLANT NO. 2 CENTRAL POWER GENERATION SYSTEMS, DURING EXCESS POWER DEMANDS, OR DURING A UTILITY POWER OUTAGE.  
[RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]
2. THIS EQUIPMENT SHALL BE OPERATED LESS THAN 199 HOURS PER CALENDAR YEAR.  
[RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

#### Periodic Monitoring:

3. THE OPERATOR SHALL INSTALL AND MAINTAIN A NON-RESETABLE ELAPSED TIME METER TO ACCURATELY INDICATE THE ELAPSED OPERATING TIME OF THE EQUIPMENT.  
[RULE 3004 (a)(4)]
4. RECORDS OF DAILY HOURS OF ENGINE OPERATION SHALL BE MAINTAINED AND KEPT FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO THE EXECUTIVE OFFICER UPON REQUEST.  
[RULE 3004(a) (4)]

#### Emissions And Requirements:

5. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

SULFUR COMPOUNDS: 500 PPMV, CALCULATED AS SO<sub>2</sub>  
[RULE 53]



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. R-D11231  
A/N 133994

**Equipment Description:**

INTERNAL COMBUSTION ENGINE NO. 2, CATERPILLAR, COMPRESSION-IGNITION, FOUR-STROKE, TURBOCHARGED-AFTERCOOLED, V-12 TYPE, MODEL NO. 3512, SER. NO. 24Z01551, 1482 HP, DIESEL OIL-FIRED, DRIVING A 1000 KW EMERGENCY ELECTRIC GENERATOR.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL ONLY BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 199 HOURS IN ANY ONE YEAR.  
[RULE 1110.2, 1304(a)(4)-MODELING & OFFSET EXEMPTION]
5. A NON RESETTABLE TIMER SHALL BE MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.  
[RULE 1110.2, 1304(a)(4)-MODELING & OFFSET EXEMPTION]
6. RECORDS OF HOURS OF ENGINE OPERATION SHALL BE MAINTAINED AND KEPT FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 1304(a)(4)-MODELING & OFFSET EXEMPTION]
7. THIS EQUIPMENT MAY ONLY OPERATE FOR MAINTENANCE TESTING OF THE ENGINE, MAINTENANCE AND RELIABILITY TESTING OF PLANT NO. 1 OR PLANT NO. 2 POWER SYSTEMS, DURING EXCESS POWER DEMANDS, OR DURING A UTILITY POWER OUTAGE.  
[RULE 1304(a)(4)-MODELING & OFFSET EXEMPTION]

This Permit to Operate No. R-D11231 supersedes Permit to Operate No. R-D11231 reissued on 10/15/96.

**Emissions And Requirements:**

8. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:  
  
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS  
PM: RULE 1470.



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. R-D11232  
A/N 133995

**Equipment Description:**

INTERNAL COMBUSTION ENGINE NO. 1, CATERPILLAR, COMPRESSION-IGNITION, FOUR-STROKE, TURBOCHARGED-AFTERCOOLED, V-12 TYPE, MODEL NO. 3512, SER. NO. 24Z01548, 1482 HP, DIESEL OIL-FIRED, DRIVING A 1000 KW EMERGENCY ELECTRIC GENERATOR.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL ONLY BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 199 HOURS IN ANY ONE YEAR.  
[RULE 1110.2, 1304(a)(4)-MODELING & OFFSET EXEMPTION]
5. A NON RESETTABLE TIMER SHALL BE MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.  
[RULE 1110.2, 1304(a)(4)-MODELING & OFFSET EXEMPTION]
6. RECORDS OF HOURS OF ENGINE OPERATION SHALL BE MAINTAINED AND KEPT FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 1304(a)(4)-MODELING & OFFSET EXEMPTION]
7. THIS EQUIPMENT MAY ONLY OPERATE FOR MAINTENANCE TESTING OF THE ENGINE, MAINTENANCE AND RELIABILITY TESTING OF PLANT NO. 1 OR PLANT NO. 2 POWER SYSTEMS, DURING EXCESS POWER DEMANDS, OR DURING A UTILITY POWER OUTAGE.  
[RULE 1304(a)(4)-MODELING & OFFSET EXEMPTION]

This Permit to Operate No. R-D11232 supersedes Permit to Operate No. R-D11232 reissued on 10/15/96.

**Emissions And Requirements:**

8. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS  
PM: RULE 1470.



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. R-D11233  
A/N 134619

**Equipment Description:**

INTERNAL COMBUSTION ENGINE NO. 3, CATERPILLAR, COMPRESSION-IGNITION, FOUR- STROKE, TURBOCHARGED-AFTERCOOLED, V-12 TYPE, MODEL NO. 3512, SER. NO. 24Z01552, 1482 HP, DIESEL OIL-FIRED, DRIVING A 1000 KW EMERGENCY ELECTRIC GENERATOR.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL ONLY BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 199 HOURS IN ANY ONE-YEAR.  
[RULE 1110.2, 1304(a)(4)-MODELING & OFFSET EXEMPTION]
5. A NON RESETTABLE TIMER SHALL BE MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.  
[RULE 1110.2, 1304(a)(4)-MODELING & OFFSET EXEMPTION]
6. RECORDS OF HOURS OF ENGINE OPERATION SHALL BE MAINTAINED AND KEPT FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 1304(a)(4)-MODELING & OFFSET EXEMPTION]
7. THIS EQUIPMENT MAY ONLY OPERATE FOR MAINTENANCE TESTING OF THE ENGINE, MAINTENANCE AND RELIABILITY TESTING OF PLANT NO. 1 OR PLANT NO. 2 POWER SYSTEMS, DURING EXCESS POWER DEMANDS, OR DURING A UTILITY POWER OUTAGE.  
[RULE 1304(a)(4)-MODELING & OFFSET EXEMPTION]

This Permit to Operate No. R-D11233 supersedes Permit to Operate No. R-D11233 reissued on 10/15/96.

**Emissions And Requirements:**

8. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS  
PM: RULE 1470.



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. R-D11234  
A/N 135464

**Equipment Description:**

INTERNAL COMBUSTION ENGINE NO. 4, CATERPILLAR, COMPRESSION-IGNITION, FOUR-STROKE, TURBOCHARGED-AFTERCOOLED, V-12 TYPE, MODEL NO. 3512, SER. NO. 24Z01540, 1482 HP, DIESEL OIL-FIRED, DRIVING A 1000 KW EMERGENCY ELECTRIC GENERATOR.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL ONLY BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 199 HOURS IN ANY ONE YEAR.  
[RULE 1110.2, 1304(a)(4)-MODELING & OFFSET EXEMPTION]
5. A NON RESETTABLE TIMER SHALL BE MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.  
[RULE 1110.2, 1304(a)(4)-MODELING & OFFSET EXEMPTION]
6. RECORDS OF HOURS OF ENGINE OPERATION SHALL BE MAINTAINED AND KEPT FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 1304(a)(4)-MODELING & OFFSET EXEMPTION]
7. THIS EQUIPMENT MAY ONLY OPERATE FOR MAINTENANCE TESTING OF THE ENGINE, MAINTENANCE AND RELIABILITY TESTING OF PLANT NO. 1 OR PLANT NO. 2 POWER SYSTEMS, DURING EXCESS POWER DEMANDS, OR DURING A UTILITY POWER OUTAGE.  
[RULE 1304(a)(4)-MODELING & OFFSET EXEMPTION]

This Permit to Operate No. R-D11234 supersedes Permit to Operate No. R-D11234 reissued on 10/15/96.

**Emissions And Requirements:**

8. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS  
PM: RULE 1470.



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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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### PERMIT TO OPERATE

Permit No. 743973  
A/N 13973X

**Equipment Description:**

PAINT SPRAY BOOTH, WITH EXHAUST FILTERS AND ONE 7.5 HP EXHAUST FAN

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]

**Emissions And Requirements:**

3. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:  
VOC: RULE 109  
VOC: RULE 442  
VOC: RULE 1107, SEE APPENDIX B FOR EMISSION LIMITS  
VOC: RULE 1136, SEE APPENDIX B FOR EMISSION LIMITS  
VOC: RULE 1151, SEE APPENDIX B FOR EMISSION LIMITS  
VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS  
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS  
PM: RULE 481





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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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### PERMIT TO OPERATE

**Permit No. F00876  
A/N 223413**

**Equipment Description:**

BOILER, NO. 1, CLEAVER BROOKS, MODEL NO. NCB-700-150, SERIAL NO. L-26853, 150 HP, 6.28 MMBTU/HR, DIGESTER GAS FIRED WITH A NATURAL GAS FIRED PILOT.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THE MAXIMUM QUANTITY OF DIGESTER GAS FUEL FIRED IN THIS BOILER SHALL NOT EXCEED 16,363,000 CUBIC FEET PER YEAR NOR A HEAT INPUT OF 9,000,000,000 BTU'S PER YEAR.  
[RULE 1146 (c) (6)]
4. THIS BOILER SHALL ONLY BURN DIGESTER GAS.  
[RULE 204]
5. THE COUNTY SANITATION DISTRICTS OF ORANGE COUNTY (CSDOC) SHALL INSTALL AND MAINTAIN A NON-RESETTABLE, TOTALIZING GAS METER TO MEASURE THE QUANTITY (IN CFM) OF DIGESTER GAS USED IN THIS EQUIPMENT.  
[RULE 1146],[RULE 1303(b)(1) AND 1303(b)(2)-MODELING & OFFSET]
6. RECORDS OF THE DAILY FUEL USAGE OF THIS EQUIPMENT AND THE TOTAL HOURS PER DAY OF STEAMING OF THE PLANT SLUDGE LINES SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 1304(a)(4)-MODELING & OFFSET EXEMPTION]



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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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### Periodic Monitoring:

7. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE NO<sub>x</sub> AND CO EMISSION LIMIT(S) BY CONDUCTING A TEST AT LEAST ONCE EVERY FIVE YEARS USING A PORTABLE ANALYZER AND AQMD-APPROVED TEST METHOD OR, IF NOT AVAILABLE, A NON-AQMD-APPROVED TEST METHOD. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1146 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.  
[RULE 1146, 3004 (a) (4)]

### Emissions And Requirements:

8. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: 2000 PPMV, RULE 407  
CO: 400 PPMV, RULE 1146  
NO<sub>x</sub>: 30 PPMV, RULE 1146  
PM: 0.1 gr/scf, RULE 409



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. F66565  
A/N 356878

#### Equipment Description:

SEWAGE TREATMENT PLANT, 216 MGD CAPACITY, CONSISTING OF:

1. HEADWORKS STATION NO. 1 WITH TWO GRIT CHAMBERS, 28'-0" L. X 20'-0" W. X 14'-0" D., TWO SPLITTER BOXES, 15'-0" L. X 4'-0" W. X 7'-6" D., TWO GRIT CLASSIFIERS, AND ASSOCIATED PUMPS AND BLOWER.
2. HEADWORKS STATION NO. 2 WITH FIVE GRIT CHAMBERS, 38'-0" L. X 20'-0" W. X 14'-0" D., THREE SPLITTER BOXES, 15'-0" L. X 8'-0" W. X 15'-0" D., FOUR BAR SCREENS WITH A RAKE ASSEMBLY, EIGHT GATE OPERATORS, FIVE SPLITTER BOX WEIR GATE OPERATORS, AND ASSOCIATED PUMPS, BLOWERS AND COMPRESSOR.
3. FIFTEEN PRIMARY BASINS CONSISTING OF TWO 188'-0" L. X 40'-0" W. X 9'-0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS, THREE 140'-0" DIA. X 9'-0" D. CIRCULAR BASINS WITH ALUMINUM GEODESIC DOME COVERS, TEN 10'-0" L. X 195'-0" W. X 10'-0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS AND ASSOCIATED PUMPS AND BLOWERS.
4. FOUR TRICKLING FILTERS, EACH 180' DIA. X 6'-0" D., WITH TWO GATE OPERATORS AND ASSOCIATED PUMPS.
5. FIFTEEN SECONDARY CLARIFIERS CONSISTING OF ONE 140'-0" DIA. X 9'-0" D. AND TWENTY-FOUR 150'-0" L. X 40'-0" W. X 10'-0" D. WITH ASSOCIATED PUMPS.
6. ACTIVATED SLUDGE PLANT PRIMARY EFFLUENT PUMP STATION WITH ASSOCIATED PUMPS.
7. TEN AERATION BASINS, EACH 275'-0" L. X 45'-0" W. X 15'-0" D. WITH ASSOCIATED BLOWERS.
8. SIX SLUDGE THICKENERS, EACH 40'-0" DIA. X 8'-0" D., WITH ASSOCIATED SWEEP DRIVER AND CONVEYORS.
9. TWELVE DIGESTER TANKS CONSISTING OF FOUR 90'-0" DIA. X 30'-0" D, EACH 208,780 CUBIC FEET CAPACITY, EIGHT 110'-0" DIA. X 30'-0" D, EACH APPROXIMATELY 330,430 CUBIC FEET CAPACITY WITH ASSOCIATED PUMPS AND COMMUNITERS.
10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'-0" L. X 56'-0" W. X 3'-2" D.
11. DIGESTER GAS STORAGE TANK, 25,000 CUBIC FEET CAPACITY, 42'-0" DIA. X 33'-6" H. WITH THREE COMPRESSORS.



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

12. SLUDGE PROCESSING STATION WITH TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES, TRANSFER PUMP HOPPERS, AUGERS, STORAGE HOPPERS AND A TRUCK LOAD-OUT HOPPER.

### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. HEADWORKS, PRIMARY TREATMENT AND SOLIDS HANDLING PROCESS SHALL NOT BE OPERATED UNLESS IT IS VENTED TO AIR POLLUTION CONTROL SYSTEMS WHICH ARE IN FULL OPERATION AND GOVERNED BY THEIR VALID PERMITS TO CONSTRUCT/OPERATE ISSUED BY THE SCAQMD.  
[RULE 402]
5. THE DAILY TOTAL INFLUENT FLOW, IN MILLION GALLONS PER DAY (MGD), TO THE HEADWORKS, PRIMARY TREATMENT PROCESS AND SECONDARY TREATMENT PROCESS SHALL BE RECORDED.  
[RULE 1304 (a)(4) – MODELING & OFFSETS EXEMPTION]
6. THE DAILY INFLUENT FLOW TO THE PRIMARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 216 MGD EXCEPT DURING WET WEATHER PERIODS.  
[RULE 1303(b)(1)-MODELING, RULE 1303 (b)(2) - OFFSET]
7. ALL OF THE DIGESTER GAS PRODUCED AT THIS FACILITY SHALL BE INCINERATED IN THE FACILITY FLARES, ENGINES OR BOILERS OR OTHER COMBUSTION EQUIPMENT WHICH HAVE VALID PERMITS TO CONSTRUCT OR OPERATE, EXCEPT DURING MAINTENANCE WORK OR CLEANING OF THE DIGESTERS AND RELATED DIGESTER GAS SYSTEM WHICH REQUIRES ISOLATION OF THE DIGESTER GAS LINE.  
[RULE 402]

### Emissions And Requirements:

8. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:  
VOC: RULE 1179



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**FACILITY PERMIT TO OPERATE  
ORANGE COUNTY SANITATION DISTRICT**

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**PERMIT TO OPERATE**

**Permit No. F40906  
A/N 386679**

**Equipment Description:**

STAND-BY AIR POLLUTION CONTROL SYSTEM (DEWATERING, PI-21) CONSISTING OF:

1. THREE SCRUBBERS, EACH 10'-0" DIA. X 38'-0" H., PACKED TOWER WITH ASSOCIATED PUMPS.
2. CHEMICAL FEED SYSTEM WHICH MAY CONTAIN CAUSTIC SODA, HYDROGEN PEROXIDE AND BLEACH.
3. AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H<sub>2</sub>S) MONITORING SYSTEM.
4. EXHAUST SYSTEM WITH ASSOCIATED BLOWERS VENTING DEWATERING BUILDINGS AND SLUDGE TRANSFER, STORAGE AND TRUCK LOADING SUPPLY FANS.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. WHEN THE SCRUBBERS ARE IN OPERATION, AUTOMATIC CHEMICAL FEED AND H<sub>2</sub>S MONITORING SYSTEM SHALL BE IN OPERATION AND MAINTAINED TO RECORD THE SCRUBBER OUTLET H<sub>2</sub>S CONCENTRATION, IN PPMV, EXCEPT DURING SHUTDOWN FOR MAINTENANCE. THE H<sub>2</sub>S MONITORING SYSTEM SHALL BE CALIBRATED PURSUANT TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.  
[RULE 402]
5. WHEN THE AUTOMATIC CHEMICAL FEED AND H<sub>2</sub>S MONITORING SYSTEM IS NOT OPERATING, PH OF THE SCRUBBING LIQUID AND THE SCRUBBER OUTLET H<sub>2</sub>S CONCENTRATION SHALL BE MEASURED AND RECORDED AT LEAST ONCE PER SHIFT.  
[RULE 402]



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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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6. WHEN THE SCRUBBERS ARE IN OPERATION, THE DAILY AVERAGE CONCENTRATION OF SULFUR COMPOUNDS, CALCULATED AS H<sub>2</sub>S MEASURED AT THE OUTLET OF EACH SCRUBBER SHALL NOT EXCEED 2 PPMV.  
[RULE 402]
  
7. RECORDS SHALL BE KEPT AND MAINTAINED FOR DAILY AVERAGE H<sub>2</sub>S CONCENTRATION, IN PPMV, AT THE OUTLET OF EACH SCRUBBER WHILE IN OPERATION. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 204]



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**FACILITY PERMIT TO OPERATE  
ORANGE COUNTY SANITATION DISTRICT**

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**PERMIT TO OPERATE**

**Permit No. F55982  
A/N 408166**

**Equipment Description:**

INTERNAL COMBUSTION ENGINE, CATERPILLAR, 12 CYLINDERS, TURBOCHARGED, AFTERCOOLED, MODEL NO. 3512B DITA (1500 KW), 2155 BHP, DIESEL-FUELED, DRIVING AN EMERGENCY ELECTRICAL GENERATOR.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. A TIMER SHALL BE MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.  
[RULE 1110.2, 1304(a) (4)-MODELING & OFFSET EXEMPTION]
4. THE OPERATING TIME OF THIS ENGINE SHALL NOT EXCEED 199 HOURS IN ANY ONE YEAR.  
[1304(a)(4)-MODELING & OFFSET EXEMPTION]
5. AN ENGINE OPERATING LOG LISTING THE DATE OF OPERATION, THE ELAPSED TIME, IN HOURS, AND THE REASON FOR OPERATION SHALL BE KEPT AND MAINTAINED ON FILE FOR A MINIMUM OF TWO YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 1110.2]

**Emissions And Requirements:**

6. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:  
  
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS  
PM: RULE 1470.



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. F68430  
A/N 428945

#### Equipment Description:

INTERNAL COMBUSTION ENGINE, CATERPILLAR, 12 CYLINDERS, TURBOCHARGED, AFTERCOOLED, MODEL NO. 3512B DITA, SERIAL NUMBER 1GZ01277, 2155 BHP, DIESEL-FUELED, DRIVING AN EMERGENCY ELECTRICAL GENERATOR (1500KW).

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. A TIMER SHALL BE MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.  
[RULE 1110.2]
4. THE OPERATING TIME OF THIS ENGINE SHALL NOT EXCEED 199 HOURS IN ANY ONE YEAR.  
[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]
5. AN ENGINE OPERATING LOG LISTING THE DATE OF OPERATION, THE ELAPSED TIME, IN HOURS, AND THE REASON FOR OPERATION SHALL BE KEPT AND MAINTAINED ON FILE FOR A MINIMUM OF TWO YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.  
[RULE 204, 1110.2]
6. THIS EQUIPMENT SHALL BE A US-EPA, NON-ROAD CERTIFIED COMPRESSION IGNITION ENGINE AS EVIDENCED BY THE MANUFACTURER'S ENGINE TAG.  
[RULE 1303 (a) (1)- BACT]

#### Emissions And Requirements:

7. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:  
  
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS  
PM: RULE 1470  
PM: 0.40 G/BHP-HR, RULE 1303(a) (1) - BACT  
VOC: 1.0 G/BHP-HR, RULE 1303(a) (1) - BACT  
NOx: 6.9 G/BHP-HR, RULE 1303(a) (1) - BACT  
CO: 8.5 G/BHP-HR, RULE 1303(a) (1) - BACT





## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. F71054  
A/N 429662

#### Equipment Description:

DIGESTER GAS FLARING SYSTEM (PLANT NO. 1) CONSISTING OF:

1. FLARE NO. 1, SUR-LITE CORP., VERTICAL TYPE, 6'-6" W. X 6'-6" L. X 24'-3" H., 27,000,000 BTU PER HOUR MAXIMUM HEAT INPUT, WITH A DIGESTER GAS PILOT BURNER, A NATURAL GAS PILOT BURNER, AN AUTOMATIC COMBUSTION AIR DAMPER AND A RESTART IGNITION SYSTEM.
2. FLARE NO. 2, SUR-LITE CORP., VERTICAL TYPE, 6'-6" W. X 6'-6" L. X 24'-3" H., 27,000,000 BTU PER HOUR MAXIMUM HEAT INPUT, WITH A DIGESTER GAS PILOT BURNER, A NATURAL GAS PILOT BURNER, AN AUTOMATIC COMBUSTION AIR DAMPER AND A RESTART IGNITION SYSTEM.
3. FLARE NO. 3, SUR-LITE CORP., VERTICAL TYPE, 6'-6" W. X 6'-6" L. X 24'-3" H., 27,000,000 BTU PER HOUR MAXIMUM HEAT INPUT, WITH A DIGESTER GAS PILOT BURNER, A NATURAL GAS PILOT BURNER, AN AUTOMATIC COMBUSTION AIR DAMPER AND A RESTART IGNITION SYSTEM.
4. THREE GAS FILTERS, DOLLINGER, MODEL GP-188.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THE HOURLY AVERAGE VOLUME OF DIGESTER GAS BURNED IN EACH FLARE SHALL NOT EXCEED 750 SCFM.  
[RULE 1303 (b) (1) AND 1304 (b) (2)-MODELING & OFFSETS]
5. THE HOURLY AVERAGE TOTAL VOLUME OF DIGESTER GAS BURNED IN THE FLARING SYSTEM (3-FLARES) SHALL NOT EXCEED 2250 SCFM.  
[RULE 1303 (b) (1) AND 1304 (b) (2)-MODELING & OFFSETS]
6. FLOW INDICATORS AND RECORDERS SHALL BE MAINTAINED TO MEASURE THE INDIVIDUAL FLOW RATE TO EACH FLARE AND TOTAL FLOW RATE TO THE FLARING SYSTEM.  
[RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

7. WHEN THE FLARES ARE IN OPERATION, A TEMPERATURE OF NOT LESS THAN 1400 DEGREES F, AVERAGED OVER ONE HOUR, AS MEASURED BY THE TEMPERATURE INDICATOR SHALL BE MAINTAINED IN THE FLARE STACK, EXCEPT FOR A MAXIMUM OF THIRTY- MINUTES DURING START-UP AND FIFTEEN- MINUTES DURING SHUT-DOWN, AND THREE MINUTES WHEN THERMOCOUPLES SWITCH OCCURS. THE THERMOCOUPLE USED TO MEASURE THE TEMPERATURE SHALL BE ABOVE THE FLAME ZONE AND AT LEAST 0.6 SECONDS DOWNSTREAM OF THE BURNER.  
[RULE 1303(a) (1) AND 1303 (a)(4) - BACT]
8. A TEMPERATURE INDICATOR AND RECORDER SHALL BE MAINTAINED TO MEASURE THE EXHAUST GAS TEMPERATURE IN EACH OF THE FLARE STACKS.  
[RULE 1303(a)(1) AND 1303 (a)(4) - BACT]
9. AUTOMATIC DAMPERS TO REGULATE THE FLOW OF COMBUSTION AIR SHALL BE MAINTAINED FOR EACH FLARE.  
[RULE 1303(a)(1) AND 1303 (a)(4) - BACT]
10. THE OPERATOR SHALL KEEP THE RECORDS OF DIGESTER GAS FLOW RATES AND OPERATING TEMPERATURE. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE UPON REQUEST TO SCAQMD PERSONNEL.  
[RULE 204]
11. A FLARE FAILURE ALARM SYSTEM CONSISTING OF A FLAMEOUT WARNING LIGHT BY THE FLARE STATION AND AN AUDIBLE ALARM IN THE CONTROL ROOM SHALL BE MAINTAINED. THIS SAFETY SYSTEM SHALL BE TESTED MONTHLY FOR PROPER OPERATION AND THE RESULTS RECORDED AND MAINTAINED FOR TWO YEARS.  
[RULE 1303(a)(1) AND 1303 (a)(4) - BACT]
12. THE ORANGE COUNTY SANITATION DISTRICT SHALL, AT LEAST ONCE EVERY FIVE YEARS, CONDUCT TEST ON ONE OF THE THREE FLARES IN ACCORDANCE WITH SCAQMD TEST PROCEDURES AND FURNISH THE AQMD WITH WRITTEN RESULTS OF SUCH PERFORMANCE TEST WITHIN 45 DAYS AFTER THE TESTING. SUBSEQUENT TESTS SHALL BE PERFORMED ON ALTERNATE FLARES AT THE MAXIMUM FIRING RATE. WRITTEN NOTICE OF THE PERFORMANCE TESTS SHALL BE PROVIDED TO THE AQMD 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. THE PERFORMANCE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, A TEST OF THE DIGESTER GAS INLET TO THE FLARE AND THE FLARE EXHAUST FOR THE FOLLOWING:
  - A. METHANE (LBS/HR)
  - B. TOTAL NON-METHANE HYDROCARBONS (LB/HR)
  - C. OXIDES OF NITROGEN (AS NO<sub>2</sub>, EXHAUST ONLY, PPMV @ 3% O<sub>2</sub>, DRY, LBS/HR)
  - D. CARBON MONOXIDE (EXHAUST ONLY, PPMV @ 3% O<sub>2</sub>, DRY, LBS/HR).
  - E. TOTAL PARTICULATES (EXHAUST ONLY, GR/DSCF, LBS/HR).
  - F. CHEMICAL COMPOUNDS CONCENTRATION IN UG/M<sup>3</sup>, -INCLUDING BUT NOT LIMITED TO:
    - a. ACETALDEHYDE
    - b. ACROLEIN
    - c. BENZENE



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

- d. CARBON TETRACHLORIDE
  - e. CHLOROBENZENE
  - f. CHLOROFORM
  - g. 1, 4 (p)-DICHLOROBENZENE
  - h. 1, 2 - DICHLOROETHANE
  - i. FORMALDEHYDE
  - j. METHYLENE CHLORIDE
  - k. STYRENE
  - l. TETRACHLOROETHYLENE
  - m. TOLUENE
  - n. TRICHLOROETHYLENE
  - o. 1, 1, 1 - TRICHLOROETHANE
  - p. VINYL CHLORIDE
  - q. XYLENES
- [RULE 1303(a) (1)-BACT, RULE 1303(b) (2) - OFFSETS, RULE 1401]

13. EMISSIONS RESULTING FROM EACH FLARE OPERATION SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	LBS/HR
NOX, AS N02	1.75
SOX, AS S02	0.3
CO	8.33
PM	1.13
ROG	0.50

[RULE 1303(b) (1) - MODELING, RULE 431.1]

14. TOTAL EMISSIONS FROM THE FLARING OPERATION (3 FLARES) AND PLANT-1 CENTRAL POWER GENERATION ENGINES, WHEN OPERATED SIMULTANEOUSLY, SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	LBS/DAY
NOX, AS N02	408
SOX, AS S02	43
CO	1301
PM	63
ROG	288

[RULE 1303(b) (2) - OFFSETS, RULE 431.1]



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

15. SAMPLING PORTS SHALL BE MAINTAINED IN EACH FLARE STACK AT LEAST 3 FEET UPSTREAM OF FLARE OUTLET AND SHALL CONSIST OF 4-INCH COUPLINGS WITH PLUGS. AN EQUIVALENT METHOD OF EMISSION SAMPLING MAY BE USED UPON APPROVAL BY THE SCAQMD. ADEQUATE AND SAFE ACCESS TO THE TEST PORTS SHALL BE PROVIDED BY THE COUNTY SANITATION DISTRICTS OF ORANGE COUNTY.  
[RULE 217]

16. EMISSIONS RESULTING FROM THE FLARING OPERATION (3-FLARES) SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	LBS/DAY
NOX, AS NO2	123
SOX, AS SO2	22
CO	600
PM	81
ROG	36

[RULE 1303(b) (2) – OFFSETS, RULE 431.1]

17. THESE FLARES SHALL NOT OPERATE SIMULTANEOUSLY WITH THE PLANT CENTRAL POWER GENERATION SYSTEM ENGINES (AS DESCRIBED UNDER THEIR ACTIVE PERMITS) WITH THE FOLLOWING EXCEPTIONS:
- I. DURING ROUTINE AND UNFORESEEN MAINTENANCE TESTING OF THE FLARES.
  - II. WHEN THERE IS EXCESS DIGESTER GAS DUE TO MAINTENANCE, START-UP, SHUTDOWN, OR TESTING OF ENGINE(S), WHEN DIGESTER GAS THAT CANNOT BE USED BY THE ENGINES OR OTHER PERMITTED DIGESTER GAS FUELED EQUIPMENT, OR DURING SHUTDOWN OF THE INTERPLANT DIGESTER GAS TRANSPORT LINE DUE TO LEAKS, MAINTENANCE OR CONSTRUCTION WORK.
  - III. WHEN THERE IS EXCESS DIGESTER GAS AT PLANT NO. 2 (HUNTINGTON BEACH, FACILITY ID. NO. 29110), DURING UNFORESEEN CIRCUMSTANCES, WHEN DIGESTER GAS CANNOT BE USED BY OTHER PERMITTED DIGESTER GAS FUELED EQUIPMENT AND HAS TO BE TRANSPORTED TO PLANT NO. 1 THROUGH INTERPLANT DIGESTER GAS TRANSPORT LINE.  
[RULE 1304 (a) – MODELING & OFFSET EXEMPTIONS]
18. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF DAY.  
[RULE 204]
19. A SAMPLING PORT SHALL BE MAINTAINED AT THE INLET GAS LINE TO THE FLARING SYSTEM TO ALLOW THE COLLECTION OF A DIGESTER GAS SAMPLE.  
[RULE 217, RULE 431.1]
20. ALL RECORDS AS REQUIRED BY THIS PERMIT SHALL BE MAINTAINED ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO SCAQMD PERSONNEL UPON REQUEST.  
[RULE 204]



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**FACILITY PERMIT TO OPERATE  
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21. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULE 431.1.  
[RULE 431.1]

**Emissions And Requirements:**

22. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES  
AND REGULATIONS:
- PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS  
PM: RULE 409



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. F99404  
A/N 444109

#### Equipment Description:

AIR POLLUTION CONTROL SYSTEM (HEADWORKS) CONSISTING OF:

1. FOUR SCRUBBERS, NOS. 1 THROUGH 4, EACH VERTICAL TYPE, PACKED TOWER, 9'-0" DIA. X 36'-9" H., WITH ASSOCIATED PUMPS AND INLET BLOWERS.
2. SCRUBBER NOS. 9, VERTICAL TYPE, PACKED TOWER, 6'-0" DIA. X 34'-0" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.
3. BIOTRICKLING FILTER NO. 10 WITH POLYURETHANE FOAM PACKING, 6'-0" DIA. X 34'-0" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.
4. AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H<sub>2</sub>S) MONITORING SYSTEM.
5. EXHAUST SYSTEM WITH ASSOCIATED BLOWERS VENTING THE EXISTING METERING AND DIVERSION STRUCTURE, HEADWORKS NO. 1, SUNFLOWER PUMP STATION, BAR SCREEN BUILDING, BIN LOADING AND GRIT WASHER FACILITY AND GRIT CHAMBER/SPLITTER BOX BUILDING.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED, UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. SCRUBBER NO. 9 AND BIOTRICKLING FILTER NO. 10 SHALL ONLY EXHAUST INTO THE SCRUBBER NOS. 1 THROUGH 4.  
[RULE 402]



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

5. AT LEAST TWO APC EQUIPMENT (SCRUBBERS OR BIOTRICKLING FILTER) SHALL BE IN OPERATION WHEN THE BASIC EQUIPMENT ARE IN OPERATION EXCEPT DURING THE FOLLOWING EVENTS:

UNFORESEEN AND ROUTINE MAINTENANCE WORK OR POWER OUTAGE IN THE PLANT THAT REQUIRES THE SCRUBBERS OR BIOTRICKLING FILTER SHUTDOWN FOR A PERIOD NOT TO EXCEED 10 HOURS PER INCIDENT PER EQUIPMENT AND 50 HOURS PER YEAR PER EQUIPMENT, OR LONGER IF CHEMICAL TREATMENT OF THE BASIC EQUIPMENT REDUCES THE OUTLET H<sub>2</sub>S CONCENTRATION OF THE AIR POLLUTION CONTROL SYSTEM TO LESS THAN THE LIMIT AS SPECIFIED IN CONDITION NO. 8. A LOG OF SHUTDOWN DATE, DURATION, AND REASON FOR THE SHUTDOWN SHALL BE MAINTAINED.

[RULE 402]

6. WHEN ANY OF THE SCRUBBERS 1 THROUGH 4 OR SCRUBBER 9 OR BIOTRICKLING FILTER ARE IN OPERATION, AUTOMATIC HYDROGEN SULFIDE (H<sub>2</sub>S) MONITORING SYSTEM SHALL BE IN OPERATION AND MAINTAINED TO RECORD THE AIR POLLUTION CONTROL SYSTEM OUTLET H<sub>2</sub>S CONCENTRATION, IN PPMV. THE H<sub>2</sub>S MONITORING SYSTEM SHALL BE CALIBRATED PURSUANT TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

[RULE 204]

7. WHEN THE AUTOMATIC CHEMICAL FEED AND H<sub>2</sub>S MONITORING SYSTEM IS NOT OPERATING, PH OF THE SCRUBBING OR RECYCLING LIQUID, MAKEUP WATER FLOW RATE (GPM), DIFFERENTIAL PRESSURE DROP (IN INCHES OF WATER COLUMN), FOR SCRUBBERS 1 THROUGH 4 OR SCRUBBER 9 OR BIOTRICKLING FILTER SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATIONS. THE OPERATING PARAMETERS AS DESCRIBED SHALL BE MEASURED AND RECORDED AT LEAST ONCE PER SHIFT.

[RULE 402]

8. THE DAILY AVERAGE CONCENTRATION OF SULFUR COMPOUNDS MEASURED, AND CALCULATED AS H<sub>2</sub>S, AT THE OUTLET OF THE AIR POLLUTION CONTROL SYSTEM SHALL NOT EXCEED 3.5 PPMV. EMISSIONS AT THE EXHAUST STACK SHALL BE MONITORED AND RECORDED AT LEAST ONCE PER SHIFT.

[RULE 402, 1401]

9. RECORDS SHALL BE KEPT AND MAINTAINED FOR DAILY AVERAGE OPERATING PARAMETERS, AND H<sub>2</sub>S CONCENTRATION, IN PPMV, AT THE OUTLET OF EACH SCRUBBER OR BIOTRICKLING FILTER IN OPERATION. ALL RECORDS AS REQUIRED BY THIS PERMIT SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.

[RULE 204]



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO CONSTRUCT/ OPERATE

Permit No. F94280  
A/N 459958

#### Equipment Description:

ODOR CONTROL SYSTEM CONSISTING OF;

1. FOUL AIR DUCT FROM WET WELL AND ASSOCIATED TRUNK LINES (ELLIS PUMP STATION, OCSD PLANT NO. 1).
2. TWO BLOWERS, IN PARALLEL, EACH 7500 SCFM FLOW RATE.
3. TWO ADSORBERS, IN PARALLEL, CONTAINING US FILTER/WESTATES MIDAS OCM OR CALGON CARBON MINOTAUR, EACH WITH A MINIMUM OF 8000 LBS OF HIGH H<sub>2</sub>S CAPACITY ACTIVATED CARBON.
4. TWO EXHAUST STACKS, EACH 2' - 6" DIA. X 6.5' H., WITH A RAIN CAP.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATIONS UNDER WHICH THIS PERMIT IS ISSUED.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITIONS AT ALL TIMES.  
[RULE 204]
3. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THE EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.  
[RULE 205]
4. IDENTIFICATION TAG (S) OR NAMEPLATE (S) SHALL BE DISPLAYED ON THE EQUIPMENT TO SHOW MANUFACTURER MODEL NO. AND SERIAL NO. THE TAG (S) OR PLATE (S) SHALL BE ISSUED BY THE MANUFACTURER AND SHALL BE AFFIXED TO THE EQUIPMENT IN A PERMANENT AND CONSPICUOUS POSITION.  
[RULE 204]





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5. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH CARBON ADSORBER TO INDICATE THE FOUL AIR TREATED, IN CUBIC FEET PER MINUTE (CFM). IN CASE A PRESSURE SENSOR DEVICE IS USED IN PLACE OF THE FLOW METER, A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDING FLOW RATE, IN CFM, TO THE PRESSURE READING.  
[RULE 204]
6. MAXIMUM FOUL AIR FLOW TO BE TREATED BY EACH OF THE CARBON ADSORBER SHALL NOT EXCEED 7500 CFM.  
[RULE 402]
7. FOR EACH CARBON ADSORBER, AMMONIA, H<sub>2</sub>S, AND TOTAL VOLATILE COMPOUNDS (TOCs) CONCENTRATIONS (PPMV) SHALL BE MONITORED AT EACH EXHAUST STACK AT LEAST ONCE A MONTH, USING AN APPROVED AND CALIBRATED INSTRUMENT OR APPROVED SAMPLING AND ANALYTICAL METHODS. RECORDS SHALL BE MAINTAINED AND KEPT ON FILE.  
[RULE 204]
8. AMMONIA CONCENTRATION AT THE EXHAUST FROM EACH CARBON ADSORBER SHALL NOT EXCEED 1 PPMV.  
[RULE 402, 1401]
9. THE HYDROGEN SULFIDE (H<sub>2</sub>S) CONCENTRATION MEASURED AT THE EXHAUST FROM EACH CARBON SHALL NOT EXCEED 0.4 PPMV.  
[RULE 402, 1401]
10. THE TOC CONCENTRATION MEASURED AT THE EXHAUST FROM EACH CARBON SHALL NOT EXCEED 0.2 PPMV.  
[RULE 204]
11. IF THE HYDROGEN SULFIDE (H<sub>2</sub>S) CONCENTRATION MEASURED AT THE EXHAUST STACK IS DETECTED ABOVE 0.36 PPMV, THEN FOUL AIR INLET DAMPER TO THE RESPECTIVE CARBON ADSORBER SHALL BE CLOSED AND IMMEDIATE CORRECTIVE MEASURES SHALL BE TAKEN INCLUDING ACTIVATED CARBON REPLACEMENT, WITH FRESH CARBON, BEFORE RESUMING OPERATION.  
[RULE 402, 1401]
12. SPENT CARBON REMOVED FROM THIS SYSTEM SHALL BE MAINTAINED OR STORED IN CLOSED CONTAINERS PRIOR TO REMOVAL FROM SITE.  
[RULE 204]
13. IF THE OPERATION OF THIS EQUIPMENT RESULTS IN CONSIDERABLE NUMBER OF ODOR COMPLAINTS, THE WORK SHALL CEASE AND MITIGATION MEASURES SHALL BE IMPLEMENTED IMMEDIATELY. WORK SHALL NOT RESUME UNTIL EMISSIONS CAUSING THE COMPLAINTS IS MITIGATED.  
[RULE 402]
14. RECORDS SHALL BE MAINTAINED AS REQUIRED BY THIS PERMIT INCLUDING CARBON CHANGE OVER DATE(S) FOR COMPLIANCE. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 204]



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. G2955  
A/N 486760

#### Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 3 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG3-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.  
[RULE 1110.2]
5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.  
[RULE 204]
6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.  
[RULE 204]
7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.  
[RULE 204]
8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.  
[RULE 204]



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.  
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.  
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O <sub>2</sub>
PARTICULATES (PM <sub>10</sub> )	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O <sub>2</sub>
[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]	

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO <sub>2</sub> )	368
PARTICULATES (PM <sub>10</sub> )	36
ROG OR TNMHC (AS CH <sub>4</sub> )	276
SULFUR DIOXIDE	36
[RULE 1303 (b) (2)-EMISSIONS OFFSET]	

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NO<sub>x</sub> AND O<sub>2</sub> CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NO<sub>x</sub> TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NO<sub>x</sub> CONCENTRATION AT 15% O<sub>2</sub> AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.  
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O<sub>2</sub>, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

- A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
- B. CARBON MONOXIDE (EXHAUST ONLY)
- C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
- D. OXIDES OF NITROGEN (EXHAUST ONLY).



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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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- E. OXYGEN
- F. FLOW RATE
- G. MOISTURE
- H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
- I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
- J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
- K. NITROGEN AND CARBON DIOXIDE
- L. BTU CONTENTS (FUEL ONLY)
- M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

15. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 204]

### Emissions And Requirements:

16. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: 2000 PPMV, RULE 1110.2  
NOx: 45 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).  
ROG: 313 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).  
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. G2956  
A/N 486792

#### Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 2 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG2-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.  
[RULE 1110.2]
5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.  
[RULE 204]
6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.  
[RULE 204]
7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.  
[RULE 204]
8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.  
[RULE 204]



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.  
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.  
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2
[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]	

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36
[RULE 1303 (b) (2)-EMISSIONS OFFSET]	

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NO<sub>x</sub> AND O<sub>2</sub> CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NO<sub>x</sub> TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NO<sub>x</sub> CONCENTRATION AT 15% O<sub>2</sub> AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.  
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A-COMplete FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O<sub>2</sub>, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

- A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
- B. CARBON MONOXIDE (EXHAUST ONLY)
- C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
- D. OXIDES OF NITROGEN (EXHAUST ONLY).



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**FACILITY PERMIT TO OPERATE  
ORANGE COUNTY SANITATION DISTRICT**

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- E. OXYGEN
- F. FLOW RATE
- G. MOISTURE
- H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
- I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
- J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
- K. NITROGEN AND CARBON DIOXIDE
- L. BTU CONTENTS (FUEL ONLY)
- M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

15. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 204]

**Emissions And Requirements:**

16. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: 2000 PPMV, RULE 1110.2  
NOx: 45 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).  
ROG: 313 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).  
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. G2957  
A/N 486793

#### Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 1 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG1-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.  
[RULE 1110.2]
5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.  
[RULE 204]
6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.  
[RULE 204]
7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.  
[RULE 204]
8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.  
[RULE 204]





## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.  
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.  
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O <sub>2</sub>
PARTICULATES (PM <sub>10</sub> )	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O <sub>2</sub>
[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]	

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO <sub>2</sub> )	368
PARTICULATES (PM <sub>10</sub> )	36
ROG OR TNMHC (AS CH <sub>4</sub> )	276
SULFUR DIOXIDE	36
[RULE 1303 (b) (2)-EMISSIONS OFFSET]	

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NO<sub>x</sub> AND O<sub>2</sub> CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NO<sub>x</sub> TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NO<sub>x</sub> CONCENTRATION AT 15% O<sub>2</sub> AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.  
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O<sub>2</sub>, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

- A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
- B. CARBON MONOXIDE (EXHAUST ONLY)
- C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
- D. OXIDES OF NITROGEN (EXHAUST ONLY).



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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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- E. OXYGEN
- F. FLOW RATE
- G. MOISTURE
- H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
- I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
- J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
- K. NITROGEN AND CARBON DIOXIDE
- L. BTU CONTENTS (FUEL ONLY)
- M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

15. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 204]

### Emissions And Requirements:

16. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: 2000 PPMV, RULE 1110.2  
NOx: 45 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).  
ROG: 313 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).  
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS



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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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### PERMIT TO OPERATE

Permit No. G19907  
A/N 512830

#### Equipment Description:

STORAGE TANK, FIXED ROOF, ID NO. 10ITNK037 (P1 HEADWORKS), HYDROCHLORIC ACID, 12' - 0" DIA. X 10' - 0" H., 8,000-GALLON CAPACITY AND VENTING THROUGH A 55-GALLON DRUM CONTAINING (50% SULPHASORB XL AND 50% SAFETYSORB BLEND OR EQUAL) ACTIVATED CARBON.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL STORE HYDROCHLORIC ACID WITH CONCENTRATION OF 38 WEIGHT PERCENT OR LESS ONLY.  
[RULE 204]
4. THE MAXIMUM AMOUNT OF HYDROCHLORIC ACID FILLED INTO THIS STORAGE TANK SHALL NOT EXCEED 6,000 GALLONS PER MONTH.  
[RULE 1303 (b) (1) - OFFSET]
5. THIS EQUIPMENT SHALL NOT BE FILLED UNLESS THE VENT GASES PASS THROUGH A 55-GALLON DRUM CONTAINING ACTIVATED CARBON.  
[RULE 1303 (a) (1)-BACT]
6. THE OPERATOR SHALL REPLACE THE CARBON PER MANUFACTURER'S RECOMMENDATION.  
[RULE 204]
7. RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 204]



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**FACILITY PERMIT TO OPERATE  
ORANGE COUNTY SANITATION DISTRICT**

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**PERMIT TO OPERATE**

**Permit No. G19908  
A/N 512831**

**Equipment Description:**

STORAGE TANK, FIXED ROOF, ID NO. 11ITNK100 (P1 PRIMARY), HYDROCHLORIC ACID, 6' - 0" DIA. X 11' - 0" H., 2,000-GALLON CAPACITY AND VENTING THROUGH A 55-GALLON DRUM CONTAINING (50% SULPHASORB XL AND 50% SAFETYSORB BLEND OR EQUAL) ACTIVATED CARBON.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL STORE HYDROCHLORIC ACID WITH CONCENTRATION OF 38 WEIGHT PERCENT OR LESS ONLY.  
[RULE 204]
4. THE MAXIMUM AMOUNT OF HYDROCHLORIC ACID FILLED INTO THIS STORAGE TANK SHALL NOT EXCEED 6,000 GALLONS PER MONTH.  
[RULE 1303 (b) (1) - OFFSET]
5. THIS EQUIPMENT SHALL NOT BE FILLED UNLESS THE VENT GASES PASS THROUGH A 55-GALLON DRUM CONTAINING ACTIVATED CARBON.  
[RULE 1303 (a) (1)-BACT]
6. THE OPERATOR SHALL REPLACE THE CARBON PER MANUFACTURER'S RECOMMENDATION.  
[RULE 204]
7. RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 204]



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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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### RULE 219 EQUIPMENT

#### Equipment Description:

RULE 219 EXEMPT EQUIPMENT, COATING EQUIPMENT, PORTABLE, ARCHITECTURAL COATINGS.

#### Periodic Monitoring:

1. THE OPERATOR SHALL KEEP RECORDS, IN A MANNER APPROVED BY THE DISTRICT, FOR THE FOLLOWING PARAMETER (S) OR ITEM (S):

FOR ARCHITECTURAL APPLICATIONS WHERE NO THINNERS, REDUCERS, OR OTHER VOC CONTAINING MATERIALS ARE ADDED, MAINTAIN SEMI-ANNUAL RECORDS OF ALL COATINGS CONSISTING OF (a) COATING TYPE, (b) VOC CONTENT AS SUPPLIED IN GRAMS PER LITER (g/l) OF MATERIALS FOR LOW-SOLIDS COATINGS, (c) VOC CONTENT AS SUPPLIED IN g/l OF COATING, LESS WATER AND EXEMPT SOLVENT, FOR OTHER COATING.

FOR OTHER ARCHITECTURAL APPLICATIONS WHERE THINNERS, REDUCERS, OR OTHER VOC CONTAINING MATERIALS ARE ADDED, MAINTAIN DAILY RECORDS FOR EACH COATING CONSISTING OF (a) COATING TYPE, (b) VOC CONTENT AS APPLIED IN GRAMS PER LITER (g/l) OF MATERIALS USED FOR LOW-SOLIDS COATINGS, (c) VOC CONTENT AS APPLIED IN g/l OF COATING, LESS WATER AND EXEMPT SOLVENT, FOR OTHER COATING.

[RULE 3004 (a) (4)]

#### Emissions And Requirements:

2. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

VOC: RULE 1113, SEE APPENDIX B FOR EMISSION LIMITS

VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS



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## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

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### **RULE 219 EQUIPMENT**

**Equipment Description:**

RULE 219 EXEMPT EQUIPMENT, HAND WIPING OPERATIONS.

**Emissions And Requirements:**

- I. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS



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## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

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### **RULE 219 EQUIPMENT**

#### **Equipment Description:**

RULE 219 EXEMPT EQUIPMENT, CLEANING EQUIPMENT, SMALL UNHEATED, NON-CONVEYORIZED.

#### **Emissions And Requirements:**

1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS



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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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### RULE 219 EQUIPMENT

**Equipment Description:**

RULE 219 EXEMPT EQUIPMENT, AIR CONDITIONING UNITS.

**Emissions And Requirements:**

- I. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

VOC: RULE 1415

VOC: 40CFR 82 SUBPART F





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## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

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### **RULE 219 EQUIPMENT**

#### **Equipment Description:**

RULE 219 EXEMPT EQUIPMENT, MOTOR VEHICLE AIR CONDITIONERS - REPAIR, SERVICE, MANUFACTURING, MAINTENANCE, OR DISPOSAL.

#### **Emissions And Requirements:**

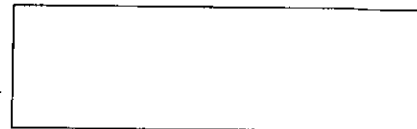
1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

VOC: RULE 1411

VOC: 40CFR 82 SUBPART B



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
21865 Copley Drive, Diamond Bar, CA 91765





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## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

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### **SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE**

This section consists of a table listing all equipment with Permits to Construct and copies of all individual Permits to Construct issued to various equipment at the facility. Each permit will list operating conditions including periodic monitoring requirements and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMITTED EQUIPMENT LIST

THE FOLLOWING IS A LIST OF ALL PERMITS TO CONSTRUCT AND PERMITS TO OPERATE AT THIS FACILITY:

Application Number	Permit to Construct Granted On	Equipment Description	Page Number
394229	4-19-2002	ODOR CONTROL UNIT	3
432418	11-18-2004	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	4
453210	10-17-2006	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	7
494460	02-09-2010	BOILER (>10 MMBTU/HR) NAT GAS & DIGESTER GAS	12
504150	05-05-2010	ODOR CONTROL UNIT	16
520793	08-16-2012	ODOR CONTROL UNIT	19
520794	08-16-2012	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	23

**NOTE:** EQUIPMENT LISTED ABOVE THAT HAVE NO CORRESPONDING PERMITS TO OPERATE NUMBER ARE ISSUED PERMITS TO CONSTRUCT. THE ISSUANCE OR DENIAL OF THEIR PERMITS TO OPERATE IS SUBJECT TO ENGINEERING FINAL REVIEW. ANY OTHER APPLICATIONS THAT ARE STILL BEING PROCESSED AND HAVE NOT BEEN ISSUED PERMITS TO CONSTRUCT OR PERMITS TO OPERATE WILL NOT BE FOUND IN THIS TITLE V PERMIT.



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**FACILITY PERMIT TO OPERATE  
ORANGE COUNTY SANITATION DISTRICT**

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**PERMIT TO CONSTRUCT**

A/N 394229  
Granted as of 4/19/2002

**Equipment Description:**

ODOR CONTROL SYSTEM CONSISTING OF (LOCATED AT PLANT NO. 1, WASTEHAULER STATION):

1. BIOFILTER, BIOREM, SINGLE MODULE, WITH INCOMING FOUL AIR HUMIDIFICATION CHAMBER, BIOFILTER MEDIA, IRRIGATION SYSTEM AND ASSOCIATED PUMPS.
2. TWO EXHAUST BLOWERS (ONE STAND-BY), 300 CFM CAPACITY.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. ORANGE COUNTY SANITATION DISTRICT (OCS D) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY) PRIOR TO INSTALLATION OF THE EQUIPMENT. DEVIATIONS FROM THE ABOVE DESCRIPTION AND PROPOSED DESIGN AFFECTING EQUIPMENT PERFORMANCE OR EMISSIONS SHALL BE APPROVED IN WRITING BY THE AQMD.  
[RULE 204]
5. THE CONCENTRATION OF H<sub>2</sub>S FOR THE INLET AND OUTLET OF THE BIOFILTER SHALL BE MEASURED AT LEAST ONCE PER WEEK. THE H<sub>2</sub>S CONCENTRATION IN BIOFILTER EXHAUST SHALL NOT EXCEED 2 PPMV AVERAGED OVER THE NUMBER OF MEASUREMENTS TAKEN OVER ANY GIVEN WEEK.  
[RULE 402]
6. THE BED DEPTH AND BED PACKING SHALL BE DESIGNED TO ACHIEVE A MINIMUM EBRT OF 40 SECONDS.  
[RULE 402]
7. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.  
[RULE 204]



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO CONSTRUCT

A/N 432418  
Granted as of 11/18/2004

#### Equipment Description:

ALTERATION OF THE EXISTING SEWAGE TREATMENT PLANT, COVERED BY PERMIT TO CONSTRUCT APPLICATION NO. 407071 (AND EXISTING P/O F66565), CONSISTING OF:

1. HEADWORKS STATION NO. 1 WITH TWO GRIT CHAMBERS, 28'-0" L. X 20'-0" W. X 14'-0" D., TWO SPLITTER BOXES, 15'-0" L. X 4'-0" W. X 7'-6" D., TWO GRIT CLASSIFIERS, AND ASSOCIATED PUMPS AND BLOWER.
2. HEADWORKS STATION NO. 2 WITH FIVE GRIT CHAMBERS, 38'-0" L. X 20'-0" W. X 14'-0" D., THREE SPLITTER BOXES, 15'-0" L. X 8'-0" W. X 15'-0" D., FOUR BAR SCREENS WITH A RAKE ASSEMBLY, EIGHT GATE OPERATORS, FIVE SPLITTER BOX WEIR GATE OPERATORS, AND ASSOCIATED PUMPS, BLOWERS AND COMPRESSOR.
3. FIFTEEN PRIMARY BASINS CONSISTING OF TWO 188'-0" L. X 40'-0" W. X 9'-0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS, THREE 140'-0" DIA. X 9'-0" D. CIRCULAR BASINS WITH ALUMINUM GEODESIC DOME COVERS, TEN 10'-0" L. X 195'-0" W. X 10'-0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS AND ASSOCIATED PUMPS AND BLOWERS.
4. FOUR TRICKLING FILTERS, EACH 180' DIA. X 6'-0" D., WITH TWO GATE OPERATORS AND ASSOCIATED PUMPS.
5. SECONDARY CLARIFIERS CONSISTING OF ONE 140'-0" DIA. X 9'-0" D., AND TWENTY-FOUR 150'-0" L. X 40'-0" W. X 10'-0" D. WITH ASSOCIATED PUMPS.
6. ACTIVATED SLUDGE PLANT PRIMARY EFFLUENT PUMP STATION WITH ASSOCIATED PUMPS.
7. TEN AERATION BASINS, EACH 275'-0" L. X 45'-0" W. X 15'-0" D. WITH ASSOCIATED BLOWERS.
8. SIX SLUDGE THICKENERS, EACH 40'-0" DIA. X 8'-0" D., WITH ASSOCIATED SWEEP DRIVER AND CONVEYORS.
9. TWELVE DIGESTER TANK CONSISTING OF FOUR 90'-0" DIA. X 30'-0" D, EACH 208,780 CUBIC FEET CAPACITY, EIGHT 110'-0" DIA. X 30'-0" D, EACH APPROXIMATELY 330,430 CUBIC FEET CAPACITY WITH ASSOCIATED PUMPS AND COMMUNUTERS.
10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'-0" L. X 56'-0" W. X 3'-2" D.
11. DIGESTER GAS STORAGE TANKS, 25,000 CUBIC FEET CAPACITY, 42'-0" DIA. X 33'-6" H. WITH THREE COMPRESSORS.



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

12. SLUDGE PROCESSING STATION WITH TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES, TRANSFER PUMP HOPPERS, AUGERS, STORAGE HOPPERS AND A TRUCK LOAD-OUT HOPPER.

BY THE ADDITION OF:

1. SIXTEEN PRIMARY BASINS, 195'-0" L. X 40'-0" W. X 10'-0" D., EACH WITH CONCRETE COVERS AND 6 MGD AVERAGE CAPACITY AND ASSOCIATED PUMPS AND BLOWERS.
2. FOUR EXISTING TRICKLING FILTERS (ITEM NO. 4 ABOVE) REPLACED WITH TWO NEW TRICKLING FILTERS, EACH 166' DIA. X 20' - 0" MEDIA DEPTH, AND ASSOCIATED PUMPS. EACH NEW TRICKLING FILTER WITH TWO EXHAUST STACKS, EACH STACK 40' HIGH, AND WITH A TOTAL AIR FLOW RATE OF 25,000 CFM PER TRICKLING FILTER.
3. ONE EXISTING SECONDARY CLARIFIER (ITEM NO. 5 ABOVE) REPLACED WITH TWO NEW SECONDARY CLARIFIERS CONSISTING OF 175' - 0" DIA. X 15' - 0" D. WITH ASSOCIATED PUMPS.
4. TWO NEW SECONDARY CLARIFIERS, EACH 150' - 0" L. X 40' - 0" W. X 10' - 0" D., WITH ASSOCIATED PUMPS (ITEM NO 5).

### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THE HEADWORKS FACILITIES, PRIMARY TREATMENT BASINS, AND SLUDGE PROCESS STATION SHALL NOT BE OPERATED UNLESS THEY ARE FULLY ENCLOSED AND THEIR EXHAUST AIR VENTED TO AIR POLLUTION CONTROL SYSTEMS, WHICH ARE IN FULL OPERATION AND HAVE VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.  
[RULE 402]
5. THE DAILY TOTAL INFLUENT FLOW, IN MILLION GALLONS PER DAY (MGD), TO THE HEADWORKS, PRIMARY TREATMENT PROCESS, AND SECONDARY TREATMENT PROCESS SHALL BE RECORDED.  
[RULE 204]



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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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6. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE PRIMARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 216 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 1304(a) (4)-MODELING & OFFSETS EXEMPTION]
7. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE SECONDARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 92 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 1304(a) (4)-MODELING & OFFSETS EXEMPTION]
8. THE HYDROGEN SULFIDE (H<sub>2</sub>S) CONCENTRATION (PPMV) IN THE EXHAUST STACKS OF EACH TRICKLING FILTER SHALL BE MEASURED AND RECORDED ON A DAILY BASIS.  
[RULE 402]
9. RAW DIGESTER GAS PRODUCED AT THIS FACILITY SHALL NOT BE RELEASED INTO THE ATMOSPHERE. ALL COLLECTED DIGESTER GAS SHALL BE EITHER BE COMBUSTED IN DIGESTER GAS FLARES, INTERNAL COMBUSTION ENGINES, OR BOILERS, WHICH HAVE VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD, EXCEPT DURING MAINTENANCE WORK OR CLEANING OF THE DIGESTERS AND RELATED DIGESTER GAS SYSTEM WHICH REQUIRES ISOLATION OF THE DIGESTER GAS LINE, IN WHICH CASE COLLECTED DIGESTER GAS SHALL BE TREATED BY ACTIVATED CARBON.  
[RULE 402]





## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO CONSTRUCT

A/N 453210  
Granted as of 10/17/2006

#### Equipment Description:

ALTERATION OF THE EXISTING SEWAGE TREATMENT PLANT (216 MGD), COVERED BY PERMIT TO CONSTRUCT APPLICATION NO.432418 (AND EXISTING P/O F66565), CONSISTING OF:

1. HEADWORKS STATION NO. 1 WITH TWO GRIT CHAMBERS, 28'-0" L. X 20'-0" W. X 14'-0" D., TWO SPLITTER BOXES, 15'-0" L. X 4'-0" W. X 7'-6" D., TWO GRIT CLASSIFIERS, AND ASSOCIATED PUMPS AND BLOWER.
2. HEADWORKS STATION NO. 2 WITH FIVE GRIT CHAMBERS, 38'-0" L. X 20'-0" W. X 14'-0" D., THREE SPLITTER BOXES, 15'-0" L. X 8'-0" W. X 15'-0" D., FOUR BAR SCREENS WITH A RAKE ASSEMBLY, EIGHT GATE OPERATORS, FIVE SPLITTER BOX WEIR GATE OPERATORS, AND ASSOCIATED PUMPS, BLOWERS AND COMPRESSOR.
3. FIFTEEN PRIMARY BASINS CONSISTING OF TWO 188'-0" L. X 40'-0" W. X 9'-0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS, THREE 140'-0" DIA. X 9'-0" D. CIRCULAR BASINS WITH ALUMINUM GEODESIC DOME COVERS, TEN 10'-0" L. X 195'-0" W. X 10'-0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS AND ASSOCIATED PUMPS AND BLOWERS.
4. FOUR TRICKLING FILTERS, EACH 180' DIA. X 6'-0" D., WITH TWO GATE OPERATORS AND ASSOCIATED PUMPS.
5. SECONDARY CLARIFIERS CONSISTING OF ONE 140'-0" DIA. X 9'-0" D. AND TWENTY-FOUR 150'-0" L. X 40'-0" W. X 10'-0" D. WITH ASSOCIATED PUMPS.
6. ACTIVATED SLUDGE PLANT PRIMARY EFFLUENT PUMP STATION WITH ASSOCIATED PUMPS.
7. TEN AERATION BASINS, EACH 275'-0" L. X 45'-0" W. X 15'-0" D. WITH ASSOCIATED BLOWERS.
8. SIX SLUDGE THICKENERS, EACH 40'-0" DIA. X 8'-0" D., WITH ASSOCIATED SWEEP DRIVER AND CONVEYORS.
9. TWELVE DIGESTER TANK CONSISTING OF FOUR 90'-0" DIA. X 30'-0" D, EACH 208,780 CUBIC FEET CAPACITY, EIGHT 110'-0" DIA. X 30'-0" D, EACH APPROXIMATELY 330,430 CUBIC FEET CAPACITY WITH ASSOCIATED PUMPS AND COMMINUTERS.
10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'-0" L. X 56'-0" W. X 3'-2" D.
11. DIGESTER GAS STORAGE TANKS, 25,000 CUBIC FEET CAPACITY, 42'-0" DIA. X 33'-6" H. WITH THREE COMPRESSORS.



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

12. SLUDGE PROCESSING STATION WITH TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES, TRANSFER PUMP HOPPERS, AUGERS, STORAGE HOPPERS AND A TRUCK LOAD-OUT HOPPER.
  - 13.\* SIXTEEN PRIMARY BASINS, 195'-0" L. X 40'-0" W. X 10'-0" D., EACH WITH CONCRETE COVERS AND 6 MGD AVERAGE CAPACITY AND ASSOCIATED PUMPS AND BLOWERS.
  - 14.\* FOUR EXISTING TRICKLING FILTERS (ITEM NO. 4 ABOVE) REPLACED WITH TWO NEW TRICKLING FILTERS, EACH 166' DIA. X 20' - 0" MEDIA DEPTH, AND ASSOCIATED PUMPS. EACH NEW TRICKLING FILTER WITH TWO EXHAUST STACKS, EACH STACK 40' HIGH, AND WITH A TOTAL AIR FLOW RATE OF 25,000 CFM PER TRICKLING FILTER.
  - 15.\* ONE EXISTING SECONDARY CLARIFIER (ITEM NO. 5 ABOVE) REPLACED WITH TWO NEW SECONDARY CLARIFIERS CONSISTING OF 175' - 0" DIA. X 15' - 0" D. WITH ASSOCIATED PUMPS.
- \* Construction for the above items 13, 14, and 15 has been completed (under A/N 407071).

BY THE ADDITION OF: (OCSJ JOB NO. P1-82 ACTIVATED SLUDGE PLANT REHABILITATION) UNDER A/N 432418.

16. TWO NEW SECONDARY CLARIFIERS, EACH 150'-0" L. X 40'-0" W. X 10'-0" D.

BY THE REMOVAL OF:

10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'-0" L. X 56'-0" W. X 3'-2" D.

AND BY THE ADDITION OF:

17. NEW SECONDARY ACTIVATED SLUDGE FACILITY 2 (OCSJ JOB NO. P1-102), AND NEW SLUDGE DEWATERING BEDS (OCSJ JOB NO. P1-106) UNDER A/N 453210,
  - I. SIX AERATION BASINS (NOS. 11 THROUGH 16), COVERED, EACH 227' - 2" L. X 45' - 0" W. X 26' - 0" D., WITH ASSOCIATED AERATION BLOWERS, DIFFUSERS, MIXERS, AND PUMPS, AND VENTING THROUGH SIX STACKS, EACH 7' - 11" H., AND 10,000 SCFM.
  - II. SIX SECONDARY CLARIFIERS (NOS. 27, 29, 31, 32, 33, AND 34), UNCOVERED, EACH 155' DIA. X 16' SIDE WATER D., WITH ASSOCIATED RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SECONDARY SCUM PUMPS.
  - III. SODIUM HYPOCHLORITE (NaOCl) SOLUTION SYSTEM ADDITION (TO THE EXISTING BLEACH SYSTEM) FOR CHLORINATION OF THE TREATED EFFLUENT, RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SURFACE WASTE.
18. SLUDGE MANAGEMENT SYSTEM CONSISTING OF:
  - I. TRUCK WASH STATION
  - II. SAWDUST STORAGE
  - III. TWO (2) DEWATERING BEDS FOR PLANT CLEANING OPERATIONS, EACH 110' - 0" L. X 56' - 0" W., AND WITH APPROXIMATELY 580 CUBIC YARDS CAPACITY.
  - IV. ONE DEWATERING BED FOR PLANT CLEANING OPERATIONS, 100' - 0" L. X 24' - 0" W., WITH APPROXIMATELY 44 CUBIC YARDS CAPACITY.



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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL MAKE A WRITTEN REQUEST FOR AND OBTAIN AN EXTENSION OF TIME TO CONSTRUCT THIS EQUIPMENT ON AN ANNUAL BASIS UNTIL SUCH TIME CONSTRUCTION IS COMPLETED AND THE EQUIPMENT IS PUT INTO OPERATION. AT LEAST 30 DAYS PRIOR TO THE EXPIRATION DATE OF THE PERMIT TO CONSTRUCT, OCSD SHALL PROVIDE IN THE WRITTEN REQUEST, VERIFIABLE DATA TO AQMD IN ORDER TO SHOW COMPLIANCE WITH THE CONSTRUCTION SCHEDULE AS PROVIDED IN THE APPLICATION UNDER WHICH THIS PERMIT TO CONSTRUCT IS GRANTED. IF THERE ARE CHANGES TO THE INCREMENTS OF PROGRESS AND/OR CONSTRUCTION SCHEDULE, THEY WILL NOT BECOME EFFECTIVE UNTIL OCSD RECEIVES WRITTEN CONFIRMATION OF SUCH CHANGES FROM AQMD.  
[RULE 204]
5. THE HEADWORKS FACILITIES, PRIMARY TREATMENT BASINS, AND SLUDGE PROCESS STATION SHALL NOT BE OPERATED UNLESS THEY ARE FULLY ENCLOSED AND THEIR EXHAUST AIR VENTED TO AIR POLLUTION CONTROL SYSTEMS, WHICH ARE IN FULL OPERATION AND HAVE VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD. IN THE EVENT AIR POLLUTION CONTROL SYSTEM(S) ARE SHUTDOWN FOR CONSTRUCTION OR MAINTENANCE WORK, THE H<sub>2</sub>S EMISSIONS SHALL NOT EXCEED THE CONCENTRATION LIMITS AS SPECIFIED IN THE SHUT DOWN OF AIR POLLUTION CONTROL EQUIPMENT PERMIT.  
[RULE 402]
6. THE DAILY TOTAL INFLUENT FLOW, IN MILLION GALLONS PER DAY (MGD), TO THE HEADWORKS, PRIMARY TREATMENT PROCESS, AND SECONDARY TREATMENT PROCESS SHALL BE RECORDED.  
[RULE 204]
7. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE PRIMARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 216 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]



## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

8. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE SECONDARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 92 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]
9. THE AVERAGE DAILY PRIMARY EFFLUENT FLOW RATE, TREATED BY THE NEW ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102 CONSISTING OF SIX AERATION BASINS AND SIX SECONDARY CLARIFIERS), SHALL NOT EXCEED 60 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 204]
10. WITHIN 60 DAYS AFTER ACHIEVING THE MAXIMUM INFLUENT FLOW RATE FOR THE ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102), BUT NOT LATER THAN 180 DAYS AFTER INITIAL START-UP, ORANGE COUNTY SANITATION DISTRICT (OCSO) SHALL CONDUCT SOURCE TESTS TO DETERMINE EMISSIONS FROM AT LEAST TWO OF THE SIX NEW AERATION BASINS' EXHAUST STACKS, AND AT LEAST TWO OF THE SIX NEW SECONDARY CLARIFIERS' SURFACE EMISSIONS, IN ACCORDANCE WITH THE AQMD OR OTHER APPROVED TEST PROCEDURES. A TEST PROTOCOL INCLUDING ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, REFINERY AND WASTE MANAGEMENT TEAM, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL DETERMINE THE EMISSIONS TO ATMOSPHERE FROM TWO OF THE AERATION BASINS AND TWO OF THE SECONDARY CLARIFIERS FOR:
  - A. TOTAL NON-METHANE HYDROCARBONS (TNMHC) AND TOXIC AIR CONTAMINANTS (TAC) PRESENT, (LBS/HR AND PPMV).
  - B. AMMONIA AND HYDROGEN SULFIDE (H<sub>2</sub>S), (LBS/HR AND PPMV).
  - C. CARBON DIOXIDE, OXYGEN AND NITROGEN
  - D. MOISTURE CONTENT, TEMPERATURE AND EXHAUST FLOW RATE.
11. ADEQUATE NUMBER OF SAMPLING PORTS WITH ITS SAFE ACCESS, SHALL BE INSTALLED AND MAINTAINED IN THE AERATION BASINS' EXHAUST STACK (JOB NO. P1-102) IN ACCORDANCE WITH SCAQMD'S RULE 217.  
[RULE 217]
12. ORANGE COUNTY SANITATION DISTRICT (OCSO) SHALL CALCULATE THE MAXIMUM INDIVIDUAL CANCER RISK (MICR), ACUTE HAZARD INDEX (HIA) AND CHRONIC HAZARD INDEX (HIC), BASED ON THE SOURCE TESTS RESULTS, USING AQMD PUBLISHED "RISK ASSESSMENT PROCEDURES FOR RULES 1401 AND 212" (VERSION 7.0, JULY 1, 2005), TO DETERMINE THE COMPLIANCE WITH RULE 1401. RESULTS SHALL BE SUBMITTED TO AQMD.  
[RULE 1401]



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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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13. IF SOURCE TESTS RESULTS INDICATE THAT THE TOTAL VOLATILE ORGANIC COMPOUNDS (VOC) EMISSIONS FROM THE AERATION BASINS EXCEED 13 LBS PER DAY OR AS DETERMINED BY AQMD, THEN OCSD SHALL CONDUCT IN DETAIL THE TECHNOLOGICAL FEASIBLE STUDY AND COST-EFFECTIVENESS ANALYSIS FOR A SUITABLE AIR POLLUTION CONTROL EQUIPMENT TO DETERMINE LOWEST ACHIEVABLE EMISSION RATE (LAER) FROM SUCH PROCESS.  
[RULE 1303 (a) (1) – BACT]
14. THE HYDROGEN SULFIDE (H<sub>2</sub>S) CONCENTRATION (PPMV) IN THE EXHAUST STACKS OF EACH TRICKLING FILTER SHALL BE MEASURED AND RECORDED ON A DAILY BASIS.  
[RULE 402]
15. RAW DIGESTER GAS PRODUCED AT THIS FACILITY SHALL NOT BE RELEASED INTO THE ATMOSPHERE. ALL COLLECTED DIGESTER GAS SHALL BE EITHER COMBUSTED IN DIGESTER GAS FLARES, INTERNAL COMBUSTION ENGINES, OR BOILERS WITH VALID AQMD PERMIT, OR SHALL BE TREATED THROUGH A PERMITTED AIR POLLUTION CONTROL DEVICE(S).  
[RULE 402]
16. THE SAWDUST USED IN THE SLUDGE MANAGEMENT SYSTEM SHALL BE STORED AND KEPT SUFFICIENTLY MOIST TO PREVENT ANY AIR BORNE PARTICULATE MATTER EMISSIONS.  
[RULE 402]
17. OCSD SHALL KEEP THE FOLLOWING DAILY RECORDS WITH REGARDS TO THE SLUDGE MANAGEMENT SYSTEM,
  - I. THE AMOUNT OF SLUDGE DEWATERED IN EACH DRYING BED.
  - II. NUMBER OF TRUCKS WASHED.
  - III. NUMBER OF LEAKY OR OVERFILLED TRUCKS.[RULE 204]
18. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.  
[RULE 204]



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO CONSTRUCT

A/N 494460  
Granted as of 02/09/2010

#### Equipment Description:

BOILER, HURST BOILER AND WELDING COMPANY, MODEL S5-250-125W OR EQUIVALENT, FIRE-TUBE TYPE, WITH POWER FLAME INC., MODEL NVC8-G-30 LOW NO<sub>x</sub> BURNER OR EQUIVALENT, 10,500,000 BTU PER HOUR, WITH DIGESTER GAS AS PRIMARY FUEL, AND NATURAL GAS AS STAND-BY FUEL.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED, UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL PROVIDE TO SCAQMD FINAL BOILER DESIGN DRAWINGS, P & I DIAGRAMS, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, DIMENSIONS, SIZE AND MAXIMUM CAPACITY) PRIOR TO INSTALLATION OF THE EQUIPMENT.  
[RULE 204]
4. THIS EQUIPMENT SHALL BE PRIMARILY FIRED WITH DIGESTER GAS. NATURAL GAS MAY BE USED AS A STANDBY FUEL, IN THE EVENT DIGESTER GAS IS NOT AVAILABLE.  
[RULE 204, 1146]
5. A FUEL METER SHALL BE INSTALLED AND MAINTAINED IN THE FUEL SUPPLY LINE(S) TO MEASURE, INDICATE AND RECORD THE AMOUNT OF FUEL(S) (SCFM) BURNED IN THIS EQUIPMENT.  
[RULE 1303 (b) (1) & 1303 (b) (2) – MODELING & OFFSET]
6. WHEN IN OPERATION, TOTAL HEAT INPUT FOR THIS EQUIPMENT SHALL NOT EXCEED 10.5 MMBTU/HR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE (BTU/SCF) OF FUEL GAS BURNED IN THIS EQUIPMENT BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.  
[RULE 1303 (b) (1) & 1303 (b) (2) – MODELING & OFFSET]



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

7. THIS EQUIPMENT SHALL BE EQUIPPED WITH A CONTROL SYSTEM TO AUTOMATICALLY REGULATE THE COMBUSTION AIR AND FUEL RATE AS THE BOILER LOAD VARIES. THIS AUTOMATIC CONTROL SYSTEM SHALL BE ADJUSTED AND TUNED PERIODICALLY, ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS TO ASSURE ITS ABILITY TO REPEAT THE SAME PERFORMANCE AT THE SAME BURNER FIRING RATE.  
[RULE 1146]
8. EMISSIONS FOR OXIDES OF NITROGEN (NO<sub>x</sub>) AND CARBON MONOXIDE (CO) SHALL NOT EXCEED THE FOLLOWING LIMITS AND SHALL BE MEASURED BY VOLUME, ON A DRY BASIS, AT 3% O<sub>2</sub>.
- | <u>FUEL USED</u> | <u>NO<sub>x</sub> AS NO<sub>2</sub></u> | <u>CO</u> |
|------------------|---|-----------|
| DIGESTER GAS     | 30 PPMV                                 | ≤100 PPMV |
| NATURAL GAS      | 12 PPMV                                 | ≤50 PPMV  |
- [RULE 1146, RULE 1303 (a) (1) – BACT/LAER]
9. ON AND AFTER JANUARY 1, 2015, EMISSIONS OF NO<sub>x</sub> SHALL NOT EXCEED 15 PPMV (CORRECTED TO 3% O<sub>2</sub>, DRY) WHILE FIRING ON DIGESTER GAS  
[RULE 1146]
10. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL CONDUCT AN INITIAL SOURCE TEST, AND SUBSEQUENT SOURCE TESTS ONCE EVERY THREE YEARS THEREAFTER, UNDER THE FOLLOWING CONDITIONS:
- A. A TESTING LABORATORY CERTIFIED BY THE CALIFORNIA AIR RESOURCES BOARD AND IN COMPLIANCE WITH DISTRICT RULE 304 (NO CONFLICT OF INTEREST) SHALL CONDUCT THIS TEST.
  - B. A SOURCE TEST PROTOCOL SHALL BE SUBMITTED TO AQMD WITHIN 30 DAYS OF INITIAL START UP AND SHALL BE APPROVED BY AQMD BEFORE THE TEST COMMENCES. THE PROTOCOL SHALL INCLUDE PROPOSED OPERATING CONDITIONS OF THE EQUIPMENT DURING THE TEST, AND A DESCRIPTION OF ALL SAMPLING AND ANALYTICAL PROCEDURES TO BE USED.
  - C. SOURCE TESTING SHALL BE CONDUCTED WITHIN 60 CALENDAR DAYS AFTER NORMAL OPERATION OF THE EQUIPMENT HAS BEEN ESTABLISHED, BUT NO LATER THAN 180 DAYS AFTER INITIAL START UP.
  - D. THE SOURCE TESTS SHALL BE PERFORMED WHEN THE BOILER IS OPERATING AT MAXIMUM, MINIMUM AND AVERAGE LOAD FOR EACH FUEL (DIGESTER GAS AND NATURAL GAS) TO BE BURNED. THE SAMPLING TIME AT EACH LOAD SHALL BE FOR A MINIMUM OF 15 CONSECUTIVE MINUTES.
  - E. TWO COPIES OF THE SOURCE TEST RESULTS SHALL BE SUBMITTED TO AQMD, ATTN. GAURANG RAWAL, WITHIN 60 DAYS OF THE TESTS COMPLETION. THE REPORT SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
    - FUEL FLOW RATE (EACH FUEL)
    - FLUE GAS FLOW RATE (EACH FUEL)
    - METHANE (INLET DIGESTER GAS)
    - TOTAL NON-METHANE ORGANICS (EXHAUST & INLET DIGESTER GAS)



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

SPECIATED TRACE ORGANICS (EXHAUST, DIGESTER GAS)  
TOTAL PARTICULATES (EXHAUST)  
OXIDES OF NITROGEN (EXHAUST)  
CARBON MONOXIDE (EXHAUST)  
OXYGEN  
DIGESTER GAS BTU (HHV), AND TOTAL SULFUR CONTENT (AS H<sub>2</sub>S, PPMV)

THE REPORT SHALL PRESENT THE EMISSIONS DATA IN PARTS PER MILLION (PPMV) ON A DRY BASIS, POUNDS PER HOUR, AND LBS/MMBTU.

[RULE 217, RULE 404, RULE 1146, RULE 1303(A) (1), 1303 (B) (1), 1303(B) (2) - BACT, MODELING AND OFFSET, 1401]

10. MONITORING AND TESTING OF THE BOILER SHALL BE PERFORMED ACCORDING TO RULE 1146.  
[RULE 1146]

11. EMISSIONS RESULTING FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

<u>POLLUTANT</u>	<u>POUNDS PER HOUR</u>
CO	0.90 (0.43 WITH NATURAL GAS)
NO <sub>x</sub>	0.44 (0.17 WITH NATURAL GAS)
PM <sub>10</sub>	0.056
ROG	0.083
SO <sub>x</sub>	0.13

[RULE 404, 431.1, 1303(a) (1)-BACT, 1303(b) (2) - OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART DDDDD.  
[40 CFR 63 SUBPART DDDDD]
13. ALL RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR A MINIMUM OF FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (1)]

### Periodic Monitoring:

14. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE EMISSION LIMIT(S) IN CONDITION NO. 11, AT LEAST ONCE EVERY FIVE YEARS USING AQMD-APPROVED TEST METHOD. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.  
[RULE 1303 - OFFSET, 3004 (a) (4)]





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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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### Emissions And Requirements:

15. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

CO: 2000 PPMV, RULE 407  
CO: 400 PPMV, @ 3% O<sub>2</sub>, DRY BASIS, RULE 1146  
PM: 0.1 GR/SCF, RULE 409



## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

### **PERMIT TO CONSTRUCT**

**A/N 504150**  
**Granted as of 04/30/2010**

#### **Equipment Description:**

MODIFICATION OF THE EXISTING ODOR CONTROL SYSTEM, F94280, CONSISTING OF;

1. FOUL AIR DUCTING FROM WET WELL AND ASSOCIATED TRUNK LINES (ELLIS PUMP STATION, OCSD PLANT NO. 1).
2. TWO BLOWERS, IN PARALLEL, EACH 7500 SCFM FLOW RATE
3. TWO ADSORBERS, IN PARALLEL, CONTAINING US FILTER/WESTATES MIDAS OCM OR CALGON CARBON MINOTAUR, EACH WITH A MINIMUM OF 8000 LBS OF HIGH H<sub>2</sub>S CAPACITY ACTIVATED CARBON.
4. TWO EXHAUST STACKS, EACH 2' - 6" DIA. X 6.5' H. WITH RAIN CAP.

**BY REPLACEMENT WITH NEW ADSORBENT MEDIA BLEND, EXHAUST STACK, AND REMOVAL OF A RAIN CAP, AS FOLLOWS,**

1. FOUL AIR DUCTING FROM WET WELL AND ASSOCIATED TRUNK LINES (STEVE ANDERSON LIFT STATION, OCSD PLANT NO. 1).
2. TWO BLOWERS, IN PARALLEL, EACH 7500 SCFM FLOW RATE
3. TWO ADSORBERS, IN PARALLEL, CONTAINING PUREAIR FILTRATION OR EQUAL ADSORBENT MEDIA, A BLEND OF POTASSIUM PERMANGANATE BASED AND GRANULAR ACTIVATED CARBON MEDIA, EACH ADSORBER WITH A MINIMUM OF 382 CUBIC FEET OF HIGH H<sub>2</sub>S CAPACITY MEDIA BLEND.
4. HYDROGEN SULFIDE CONTINUOUS EMISSION MONITORING AND INTEGRATED SAMPLING SYSTEM.
5. TWO EXHAUST STACKS, EACH 2' - 0" DIA. X 25' - 6"H.

#### **PERMIT CONDITIONS:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATIONS UNDER WHICH THIS PERMIT IS ISSUED.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITIONS AT ALL TIMES.  
[RULE 204]



## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

3. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THE EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.  
[RULE 205]
4. IDENTIFICATION TAG (S) OR NAMEPLATE (S) SHALL BE DISPLAYED ON THE EQUIPMENT TO SHOW MANUFACTURER MODEL NO. AND SERIAL NO. THE TAG (S) OR PLATE (S) SHALL BE ISSUED BY THE MANUFACTURER AND SHALL BE AFFIXED TO THE EQUIPMENT IN A PERMANENT AND CONSPICUOUS POSITION.  
[RULE 204]
5. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH CARBON ADSORBER TO INDICATE THE FOUL AIR TREATED, IN CUBIC FEET PER MINUTE (CFM). IN CASE A PRESSURE SENSOR DEVICE IS USED IN PLACE OF THE FLOW METER, A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDING FLOW RATE, IN CFM, TO THE PRESSURE READING.  
[RULE 204]
6. MAXIMUM FOUL AIR FLOW TO BE TREATED BY EACH OF THE CARBON ADSORBER SHALL NOT EXCEED 7500 CFM.  
[RULE 402]
7. FOR EACH CARBON ADSORBER, TOTAL ORGANIC COMPOUNDS (TOCs) CONCENTRATION (PPMV) SHALL BE MONITORED AT EACH EXHAUST STACK, AT LEAST ONCE EVERY 7 DAYS OF OPERATION, FOR THE FIRST SIX-MONTH AND THEN ON A MONTHLY BASIS, USING A PHOTO IONIZATION DETECTOR OR AN ORGANIC VAPOR ANALYZER. RECORDS SHALL BE MAINTAINED AND KEPT ON FILE.  
[RULE 204]
8. THE TOC CONCENTRATION MEASURED AT THE EXHAUST FROM EACH CARBON ADSORBER SHALL NOT EXCEED 2.2 PPMV, AS CARBON.  
[RULE 204]
9. WHEN IN OPERATION, H<sub>2</sub>S CONCENTRATION (PPMV) IN EACH EXHAUST STACK SHALL BE MONITORED AND RECORDED USING A HYDROGEN SULFIDE CONTINUOUS EMISSION MONITORING AND INTEGRATED SAMPLING SYSTEM (CEMS). WHEN THE H<sub>2</sub>S MONITORING SYSTEM IS SHUTDOWN FOR REPAIR OR MAINTENANCE, PORTABLE DEVICES SUCH AS JEROME OR COLORIMETRIC TUBES SHALL BE USED TO MEASURE AND RECORD OUTLET H<sub>2</sub>S AT LEAST ONCE PER SHIFT.
10. THE HYDROGEN SULFIDE (H<sub>2</sub>S) CONCENTRATION MEASURED AT EACH EXHAUST STACK, USING CEMS SHALL NOT EXCEED 2.45PPMV, AVERAGED OVER ONE HOUR  
[RULE 402, 1401]
11. IF THE HYDROGEN SULFIDE (H<sub>2</sub>S) CONCENTRATION MEASURED AT THE EXHAUST STACK IS DETECTED ABOVE 2.2 PPMV, THEN IMMEDIATE CORRECTIVE MEASURES SHALL BE TAKEN INCLUDING ACTIVATED CARBON REPLACEMENT, WITH FRESH CARBON, BEFORE RESUMING OPERATION.  
[RULE 402, 1401]



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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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12. SPENT CARBON REMOVED FROM THIS SYSTEM SHALL BE MAINTAINED OR STORED IN CLOSED CONTAINERS PRIOR TO REMOVAL FROM SITE.  
[RULE 204]
13. IF THE OPERATION OF THIS EQUIPMENT RESULTS IN CONSIDERABLE NUMBER OF ODOR COMPLAINTS, THE WORK SHALL CEASE AND MITIGATION MEASURES SHALL BE IMPLEMENTED IMMEDIATELY. WORK SHALL NOT RESUME UNTIL EMISSIONS CAUSING THE COMPLAINTS IS MITIGATED.  
[RULE 402]
14. RECORDS SHALL BE MAINTAINED AS REQUIRED BY THIS PERMIT INCLUDING CARBON CHANGE OVER DATE(S) FOR COMPLIANCE. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 204]



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**FACILITY PERMIT TO OPERATE  
ORANGE COUNTY SANITATION DISTRICT**

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**PERMIT TO CONSTRUCT**

A/N 520793

Granted as of 08/16/2012

**Equipment Description:**

ODOR CONTROL SCRUBBER SYSTEM FOR NEW SLUDGE THICKENING AND DEWATERING FACILITY (JOB NO. P1-101), CONSISTING OF:

1. FOUL AIR EXHAUST DUCT FROM NEW SLUDGE THICKENING AND DEWATERING BUILDING, TOTAL 40,000 CFM.
2. THREE (3) EXHAUST BLOWERS, EACH 20,000 CFM.
3. THREE (3) CHEMICAL SCRUBBERS, EACH 3-STAGE, SIEMENS MODEL LP-6500 OR DUALL MODEL PMTD OR EQUIVALENT, VERTICAL, PACKED BED TYPE, FIRST AND FINAL STAGE MIST ELIMINATORS, WITH OPTIONAL OXIDATION REDUCTION POTENTIAL (ORP) PROBES AND CONTROLLERS, THREE (3) SUMPS, SCRUBBER SOLUTION RECIRCULATION PUMPS AND FLOW METERS, AUTOMATIC CHEMICAL FEED METERING PUMP AND MAKEUP WATER SYSTEM, EACH WITH EXHAUST STACK, 3' DIA. X 33' - 9" H., AND WITH NO RAIN CAP.
4. ASSOCIATED SULFURIC ACID, SODIUM HYDROXIDE, AND SODIUM HYPOCHLORITE STORAGE TANKS.
5. OPTIONAL TWO (2) DUAL-BED ADSORBERS, IN PARALLEL, EACH SIEMENS MODEL RJC-1300-D OR DUALL MODEL CA-132DB OR EQUIVALENT, GRANULAR ACTIVATED CARBON, 20, 000 SCFM, EACH WITH A EXHAUST STACK, 3' DIA. X 22' - 6" H., AND WITH NO RAIN CAP.

**CONDITIONS:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THE EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.  
[RULE 205]



## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

5. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSA) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY). DEVIATIONS FROM THE ABOVE DESCRIPTION AND PROPOSED DESIGN AFFECTING EQUIPMENT PERFORMANCE OR EMISSIONS SHALL BE APPROVED IN WRITING BY THE AQMD.  
[RULE 204]
6. A SUFFICIENT NUMBER OF SCRUBBERS AND CARBON ADSORBERS (IF CONSTRUCTED) SHALL BE IN OPERATION WHEN THE BASIC EQUIPMENT ARE IN OPERATION TO MAINTAIN EXHAUST OUTLET H<sub>2</sub>S AND NH<sub>3</sub> CONCENTRATIONS IN COMPLIANCE WITH THE LIMITS AS SPECIFIED IN THIS PERMIT EXCEPT DURING UNFORSEEN AND ROUTINE MAINTENANCE WORK OR POWER OUTAGE IN THE PLANT THE REQUIRES THE EQUIPMENT TO BE SHUTDOWN FOR A PERIOD NOT TO EXCEED 10 HOURS PER INCIDENT PER EQUIPMENT AND 50 HOURS PER YEAR PER EQUIPMENT. A LOG OF SHUTDOWN DATE, DURATION, AND REASON FOR THE SHUTDOWN SHALL BE MAINTAINED.  
[RULE 402]
7. WHEN IN OPERATION, NO MORE THAN TWO (2) MULTI-STAGE CHEMICAL SCRUBBERS SHALL BE IN OPERATION.  
[RULE 204]
8. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH OF THE MULTI-STAGE CHEMICAL SCRUBBER TO INDICATE THE TOTAL AIR FLOW RATE IN CUBIC FEET PER MINUTE (CFM). THE MEASURED AIR FLOW RATE FOR EACH SCRUBBER SHALL NOT EXCEED 20,000 CFM. IN CASE A PRESSURE SENSOR DEVICE(S) IS USED IN PLACE OF THE FLOW METER(S), A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDENT FLOW RATE(S), IN CFM, TO THE PRESSURE READING.  
[RULE 204]
9. A PRESSURE DIFFERENTIAL GAUGE INDICATING THE PRESSURE DROP ACROSS EACH SCRUBBER PACKING BED SHALL BE INSTALLED AND MAINTAINED. THE PRESSURE DROP ACROSS EACH PACKING BED SHALL BE MAINTAINED WHEN THE SCRUBBER IS IN OPERATION PER MANUFACTURER'S RECOMMENDATION.  
[RULE 204]
10. A PH METER SHALL BE INSTALLED AND MAINTAINED, FOR EACH SCRUBBER STAGE (SUMP SOLUTION), TO INDICATE PH OF THE SCRUBBING SOLUTION. THE PH OF THE SCRUBBER SOLUTION FOR EACH SCRUBBER STAGE SHALL BE RECORDED ONCE PER DAY AND SHALL BE PROPERLY MAINTAINED TO ENSURE COMPLIANCE WITH THE EXHAUST LIMITS SPECIFIED IN CONDITION NO. 20.  
[RULE 204]
11. IF THE ORP IS CONSTRUCTED AND IS IN OPERATION, THE OXIDATION REDUCTION POTENTIAL (ORP) VALUE FOR EACH STAGE OF THE SCRUBBING SOLUTION SHALL BE MAINTAINED PER MANUFACTURER'S RECOMMENDATION.  
[RULE 204]



## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

12. A FLOW METER SHALL BE INSTALLED TO INDICATE SCRUBBING SOLUTION FLOW RATE FOR EACH SCRUBBER. THE SCRUBBING SOLUTION FLOW RATE (GPM) FOR EACH STAGE SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATION.  
[RULE 204]
13. WHEN IN OPERATION, FOR EACH SCRUBBER THE FOUL-AIR FLOW RATE, SCRUBBING SOLUTION FLOW RATE, PH, AND PRESSURE DIFFERENTIAL ACROSS THE SCRUBBER PACKING BED SHALL BE MONITORED AND RECORDED AT LEAST ONCE A DAY FOR THE FIRST MONTH OF OPERATION AND WEEKLY THEREAFTER.  
[RULE 204]
14. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH CARBON ADSORBER TO INDICATE THE EXHAUST AIR (FROM CHEMICAL SCRUBBER UNITS) TREATED, IN CUBIC FEET PER MINUTE (SCFM). IN CASE A PRESSURE SENSOR DEVICE IS USED IN PLACE OF THE FLOW METER, A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDING FLOW RATE, IN CFM, TO THE PRESSURE READING.  
[RULE 204]
15. MAXIMUM EXHAUST AIR FLOW TO BE TREATED BY EACH OF THE CARBON ADSORBER SHALL NOT EXCEED 20,000 SCFM.  
[RULE 204]
16. WITHIN 180 DAYS AFTER INITIAL START-UP, ORANGE COUNTY SANITATION DISTRICT (OCSO) SHALL CONDUCT SOURCE TESTS TO DETERMINE EMISSIONS FROM THE ODOR CONTROL SYSTEM DESCRIBED IN THIS PERMIT AS INSTALLED; IN ACCORDANCE WITH THE AQMD APPROVED SOURCE TESTS PROTOCOL. A TEST PROTOCOL INCLUDING ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, WASTE MANAGEMENT & BULK TERMINALS PERMITTING TEAM, FOR APPROVAL AT LEAST 60 DAYS PRIOR TO START OF THE TESTS. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL DETERMINE THE EMISSIONS TO ATMOSPHERE FROM THE ODOR CONTROL SYSTEM FOR:
  - A. AMMONIA AND HYDROGEN SULFIDE (H<sub>2</sub>S), (LBS/HR AND PPMV) – EXHAUST TO ATMOSPHERE.
  - B. CARBON DIOXIDE, OXYGEN AND NITROGEN
  - C. MOISTURE CONTENT, TEMPERATURE AND EXHAUST FLOW RATE.  
[RULE 204, 1401]
17. ADEQUATE NUMBER OF SAMPLING PORTS WITH ITS SAFE ACCESS SHALL BE INSTALLED AND MAINTAINED FOR THE ODOR CONTROL UNIT AND EXHAUST STACKS IN ACCORDANCE WITH SCAQMD'S RULE 217.  
[RULE 217]



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

18. WHEN IN OPERATION, A PRESSURE DIFFERENTIAL GAUGE INDICATING THE PRESSURE DROP (INCHES OF WATER COLUMN) ACROSS EACH CARBON BED SHALL BE INSTALLED AND MAINTAINED. THE PRESSURE DROP ACROSS EACH CARBON BED SHALL BE MAINTAINED AS PER MANUFACTURER'S SPECIFICATION AND RECOMMENDATION. PRESSURE DROP READING SHALL BE RECORDED AT LEAST ONCE A DAY FOR THE FIRST MONTH OF OPERATION AND WEEKLY THEREAFTER.  
[RULE 204]
19. AMMONIA (NH<sub>3</sub>) AND HYDROGEN SULFIDE (H<sub>2</sub>S) CONCENTRATIONS (PPMV), AT THE EXHAUST STACKS, SHALL BE MONITORED USING HANDHELD DEVICES (USING LOW RANGE CONCENTRATION DETECTION LIMIT) OR OTHER APPROVED METHODS AT LEAST ONCE A DAY WHEN EQUIPMENT IS IN OPERATION.  
[RULE 204]
20. EMISSIONS FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING.
- |                  |        |
|------------------|--------|
| H <sub>2</sub> S | 1 PPMV |
| NH <sub>3</sub>  | 5 PPMV |
- IF MORE THAN ONE READING IS MADE IN A DAY, THE DAILY AVERAGE CONCENTRATION OF THE READINGS SHALL NOT EXCEED THE LIMITS SPECIFIED ABOVE.  
[RULE 402]
21. ACTIVATED CARBON IN THE ADSORBER SHALL BE REPLACED WITH FRESH ONE AS PER MANUFACTURER'S RECOMMENDATION TO MAINTAIN DESIRED CONTROL EFFICIENCY, RECORDS FOR CARBON REPLACEMENT EVENTS, WITH DATE, TYPE AND QUANTITY SHALL BE MAINTAINED ON FILE.  
[RULE 204]
22. SPENT CARBON REMOVED FROM THIS SYSTEM SHALL BE MAINTAINED OR STORED IN CLOSED CONTAINERS PRIOR TO REMOVAL FROM SITE.  
[RULE 204]
23. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.  
[RULE 204]





## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO CONSTRUCT

A/N 520794

Granted as of 08/16/2012

#### Equipment Description:

ALTERATION OF THE EXISTING SEWAGE TREATMENT PLANT (216 MGD), COVERED BY PERMIT TO CONSTRUCT APPLICATION NO. 453210 (AND EXISTING P/O F66565), CONSISTING OF:

1. HEADWORKS STATION NO. 1 WITH TWO GRIT CHAMBERS, 28'-0" L. X 20'-0" W. X 14'-0" D., TWO SPLITTER BOXES, 15'-0" L. X 4'-0" W. X 7'-6" D., TWO GRIT CLASSIFIERS, AND ASSOCIATED PUMPS AND BLOWER.
2. HEADWORKS STATION NO. 2 WITH FIVE GRIT CHAMBERS, 38'-0" L. X 20'-0" W. X 14'-0" D., THREE SPLITTER BOXES, 15'-0" L. X 8'-0" W. X 15'-0" D., FOUR BAR SCREENS WITH A RAKE ASSEMBLY, EIGHT GATE OPERATORS, FIVE SPLITTER BOX WEIR GATE OPERATORS, AND ASSOCIATED PUMPS, BLOWERS AND COMPRESSOR.
3. FIFTEEN PRIMARY BASINS CONSISTING OF TWO 188'-0" L. X 40'-0" W. X 9'-0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS, THREE 140'-0" DIA. X 9'-0" D. CIRCULAR BASINS WITH ALUMINUM GEODESIC DOME COVERS, TEN 10'-0" L. X 195'-0" W. X 10'-0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS AND ASSOCIATED PUMPS AND BLOWERS.
4. FOUR TRICKLING FILTERS, EACH 180' DIA. X 6'-0" D., WITH TWO GATE OPERATORS AND ASSOCIATED PUMPS.
5. SECONDARY CLARIFIERS CONSISTING OF ONE 140'-0" DIA. X 9'-0" D. AND TWENTY-FOUR 150'-0" L. X 40'-0" W. X 10'-0" D. WITH ASSOCIATED PUMPS.
6. ACTIVATED SLUDGE PLANT PRIMARY EFFLUENT PUMP STATION WITH ASSOCIATED PUMPS.
7. TEN AERATION BASINS, EACH 275'-0" L. X 45'-0" W. X 15'-0" D. WITH ASSOCIATED BLOWERS.
8. SIX SLUDGE THICKENERS, EACH 40'-0" DIA. X 8'-0" D., WITH ASSOCIATED SWEEP DRIVER AND CONVEYORS.
9. TWELVE DIGESTER TANK CONSISTING OF FOUR 90'-0" DIA. X 30'-0" D, EACH 208,780 CUBIC FEET CAPACITY, EIGHT 110'-0" DIA. X 30'-0" D, EACH APPROXIMATELY 330,430 CUBIC FEET CAPACITY WITH ASSOCIATED PUMPS AND COMMUNUTERS (GRINDERS). EACH DIGESTER IN OPERATION EQUIPPED WITH TWO PASSIVE CARBON ADSORBERS (55 GALLONS OR LESS VOLUME) USING NO MECHANICAL VENTILATION.
10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'-0" L. X 56'-0" W. X 3'-2" D.
11. DIGESTER GAS STORAGE TANKS, 25,000 CUBIC FEET CAPACITY, 42'-0" DIA. X 33'-6" H. WITH THREE COMPRESSORS.



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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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12. SLUDGE PROCESSING STATION WITH TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES, TRANSFER PUMP HOPPERS, AUGERS, STORAGE HOPPERS AND A TRUCK LOAD-OUT HOPPER.
  - 13.\* SIXTEEN PRIMARY BASINS, 195' - 0" L. X 40' - 0" W. X 10' - 0" D., EACH WITH CONCRETE COVERS AND 6 MGD AVERAGE CAPACITY AND ASSOCIATED PUMPS AND BLOWERS.
  - 14.\* FOUR EXISTING TRICKLING FILTERS (ITEM NO. 4 ABOVE) REPLACED WITH TWO NEW TRICKLING FILTERS, EACH 166' DIA. X 20' - 0" MEDIA DEPTH, AND ASSOCIATED PUMPS. EACH NEW TRICKLING FILTER WITH TWO EXHAUST STACKS, EACH STACK 40' HIGH, AND WITH A TOTAL AIR FLOW RATE OF 25,000 CFM PER TRICKLING FILTER.
  - 15.\* ONE EXISTING SECONDARY CLARIFIER (ITEM NO. 5 ABOVE) REPLACED WITH TWO NEW SECONDARY CLARIFIERS CONSISTING OF 175' - 0" DIA. X 15' - 0" D. WITH ASSOCIATED PUMPS.
- \* Construction for the above items 13, 14, and 15 has been completed (under A/N 407071).

**BY THE ADDITION OF:** (OCSJ JOB NO. P1-82 ACTIVATED SLUDGE PLANT REHABILITATION) UNDER A/N 432418.

16. TWO NEW SECONDARY CLARIFIERS, EACH 150' - 0" L. X 40' - 0" W. X 10' - 0" D.

**BY THE REMOVAL OF:**

10. THIRTY-TWO DIGESTER CLEANING BEDS, 58' - 0" L. X 56' - 0" W. X 3' - 2" D. (SEE ITEM 10 ABOVE)

**AND BY THE ADDITION OF:**

17. NEW SECONDARY ACTIVATED SLUDGE FACILITY 2 (OCSJ JOB NO. P1-102), AND NEW SLUDGE DEWATERING BEDS (OCSJ JOB NO. P1-106, CONSTRUCTION COMPLETED AND CURRENTLY IN OPERATION) UNDER A/N 453210,
  - I. SIX AERATION BASINS (NOS. 11 THROUGH 16), COVERED, EACH 227' - 2" L. X 45' - 0" W. X 26' - 0" D., WITH ASSOCIATED AERATION BLOWERS, DIFFUSERS, MIXERS, AND PUMPS, AND VENTING THROUGH SIX STACKS, EACH 7' - 11" H., AND 10,000 SCFM.
  - II. SIX SECONDARY CLARIFIERS (NOS. 27, 29, 31, 32, 33, AND 34), UNCOVERED, EACH 155' DIA. X 16' SIDE WATER D., WITH ASSOCIATED RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SECONDARY SCUM PUMPS.
  - III. SODIUM HYPOCHLORITE (NaOCl) SOLUTION SYSTEM ADDITION (TO THE EXISTING BLEACH SYSTEM) FOR CHLORINATION OF THE TREATED EFFLUENT, RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SURFACE WASTE.



## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

**AND BY THE REPLACEMENT/UPGRADE OF:** (OCSD JOB NO. P1-101- NEW SLUDGE THICKENING AND DEWATERING FACILITY, NEW A/N 520794),

18. REPLACE TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES (LISTED UNDER ITEM NO. 12)
19. UPGRADE, REPLACE OR MODIFY;
  - I. SLUDGE CONVEYANCE AND PUMPING SYSTEM
  - II. BIOSOLIDS STORAGE AND LOAD-OUT SYSTEM
  - III. CHEMICAL FEED SYSTEM
  - IV. VENTILATION SYSTEM AND VARIOUS OTHER ELECTRICAL AND CONTROL SYSTEMS.
  - V. MODIFY EXISTING TRUCKLOADING FACILITY TO IMPROVE ODOR CONTROL AND TO ALLOW STORAGE AND CONVEYANCE OF A DRIER DEWATERED CAKE/BIOSOLIDS.

**AND BY THE ADDITION OF:** (OCSD JOB NO. P1-101- NEW SLUDGE THICKENING AND DEWATERING FACILITY, NEW A/N 520794),

20. THREE (3) SLUDGE BLENDING TANKS  
POLYMER SYSTEM CONSISTING OF POLYMER STORAGE, MIXING AND AGING TANKS.  
THREE (3) SLUDGE THICKENING CENTRIFUGES  
THREE (3) THICKENED SLUDGE WETWELLS  
THREE (3) DEWATERING CENTRIFUGES  
DEWATERED CAKE CONVEYANCE SYSTEM CONSISTING OF INCLINED SCREW  
CONVEYORS, HORIZONTAL/CROSS CONVEYERS, HORIZONTAL COLLECTOR  
CONVEYORS, CAKE HOPPERS AND TEMPORARY TRUCK LOAD OUT HOPPER.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL MAKE A WRITTEN REQUEST FOR AND OBTAIN AN EXTENSION OF TIME TO CONSTRUCT THIS EQUIPMENT ON AN ANNUAL BASIS UNTIL SUCH TIME CONSTRUCTION IS COMPLETED AND THE EQUIPMENT IS PUT INTO OPERATION. AT LEAST 30 DAYS PRIOR TO THE EXPIRATION DATE OF THE PERMIT TO CONSTRUCT, OCSD SHALL PROVIDE IN THE WRITTEN REQUEST, VERIFIABLE DATA TO AQMD IN ORDER TO SHOW COMPLIANCE WITH THE CONSTRUCTION SCHEDULE AS PROVIDED IN THE APPLICATION UNDER WHICH THIS PERMIT TO CONSTRUCT IS GRANTED. IF THERE ARE



## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

CHANGES TO THE INCREMENTS OF PROGRESS AND/OR CONSTRUCTION SCHEDULE, THEY WILL NOT BECOME EFFECTIVE UNTIL OCSD RECEIVES WRITTEN CONFIRMATION OF SUCH CHANGES FROM AQMD.

[RULE 204]

5. THE HEADWORKS FACILITIES, PRIMARY TREATMENT BASINS, AND NEW SLUDGE THICKENING AND DEWATERING AND SOLIDS PROCESSING AND HANDLING FACILITY (JOB P1-101) SHALL NOT BE OPERATED UNLESS THE EXHAUST AIR IS VENTED TO AIR POLLUTION CONTROL SYSTEMS, WHICH ARE IN OPERATION AND HAVE VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD. IN THE EVENT AIR POLLUTION CONTROL SYSTEM(S) ARE SHUTDOWN FOR CONSTRUCTION OR MAINTENANCE WORK, THE H<sub>2</sub>S EMISSIONS SHALL NOT EXCEED THE CONCENTRATION LIMITS AS SPECIFIED IN THEIR RESPECTIVE AIR POLLUTION CONTROL EQUIPMENT PERMIT.  
[RULE 402]
6. THE DAILY TOTAL INFLUENT FLOW, IN MILLION GALLONS PER DAY (MGD), TO THE HEADWORKS, PRIMARY TREATMENT PROCESS, AND SECONDARY TREATMENT PROCESS SHALL BE RECORDED.  
[RULE 204]
7. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE PRIMARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 216 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]
8. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE SECONDARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 182 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]
9. THE AVERAGE DAILY PRIMARY EFFLUENT FLOW RATE, TREATED BY THE NEW ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102 CONSISTING OF SIX AERATION BASINS AND SIX SECONDARY CLARIFIERS), SHALL NOT EXCEED 60 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 204]
10. WITHIN 60 DAYS AFTER ACHIEVING THE MAXIMUM INFLUENT FLOW RATE FOR THE ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102), BUT NOT LATER THAN 180 DAYS AFTER INITIAL START-UP, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL CONDUCT SOURCE TESTS TO DETERMINE EMISSIONS FROM AT LEAST TWO OF THE SIX NEW AERATION BASINS' EXHAUST STACKS, AND AT LEAST TWO OF THE SIX NEW SECONDARY CLARIFIERS' SURFACE EMISSIONS, IN ACCORDANCE WITH THE AQMD OR OTHER APPROVED TEST PROCEDURES. A TEST PROTOCOL INCLUDING ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, REFINERY AND WASTE MANAGEMENT TEAM, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. NOTICE SHALL BE PROVIDED TO THE AQMD 10



## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL DETERMINE THE EMISSIONS TO ATMOSPHERE FROM TWO OF THE AERATION BASINS AND TWO OF THE SECONDARY CLARIFIERS FOR:

- A. TOTAL NON-METHANE HYDROCARBONS (TNMHC) AND TOXIC AIR CONTAMINANTS (TAC) PRESENT, (LBS/HR AND PPMV).
  - B. AMMONIA AND HYDROGEN SULFIDE (H<sub>2</sub>S), (LBS/HR AND PPMV).
  - C. CARBON DIOXIDE, OXYGEN AND NITROGEN
  - D. MOISTURE CONTENT, TEMPERATURE AND EXHAUST FLOW RATE.
- 
- 11. ADEQUATE NUMBER OF SAMPLING PORTS WITH ITS SAFE ACCESS, SHALL BE INSTALLED AND MAINTAINED IN THE AERATION BASINS' EXHAUST STACK (JOB NO. P1-102) IN ACCORDANCE WITH SCAQMD'S RULE 217.  
[RULE 217]
  - 12. ORANGE COUNTY SANITATION DISTRICT (OCS D) SHALL CALCULATE THE MAXIMUM INDIVIDUAL CANCER RISK (MICR), ACUTE HAZARD INDEX (HIA) AND CHRONIC HAZARD INDEX (HIC), BASED ON THE SOURCE TESTS RESULTS, USING AQMD PUBLISHED "RISK ASSESSMENT PROCEDURES FOR RULES 1401 AND 212" (VERSION 7.0, JULY 1, 2005), TO DETERMINE THE COMPLIANCE WITH RULE 1401. RESULTS SHALL BE SUBMITTED TO AQMD.  
[RULE 1401]
  - 13. IF SOURCE TESTS RESULTS INDICATE THAT THE TOTAL VOLATILE ORGANIC COMPOUNDS (VOC) EMISSIONS FROM THE AERATION BASINS EXCEED 13 LBS PER DAY OR AS DETERMINED BY AQMD, THEN OCS D SHALL CONDUCT IN DETAIL THE TECHNOLOGICAL FEASIBLE STUDY AND COST-EFFECTIVENESS ANALYSIS FOR A SUITABLE AIR POLLUTION CONTROL EQUIPMENT TO DETERMINE LOWEST ACHIEVABLE EMISSION RATE (LAER) FROM SUCH PROCESS.  
[RULE 1303 (a) (1) – BACT]
  - 14. THE HYDROGEN SULFIDE (H<sub>2</sub>S) CONCENTRATION (PPMV) IN THE EXHAUST STACKS OF EACH TRICKLING FILTER SHALL BE MEASURED AND RECORDED ON A DAILY BASIS.  
[RULE 402]
  - 15. RAW DIGESTER GAS PRODUCED AT THIS FACILITY SHALL NOT BE RELEASED INTO THE ATMOSPHERE. ALL COLLECTED DIGESTER GAS SHALL BE EITHER COMBUSTED IN DIGESTER GAS FLARES, INTERNAL COMBUSTION ENGINES, OR BOILERS WITH VALID AQMD PERMIT, OR SHALL BE TREATED THROUGH A PERMITTED AIR POLLUTION CONTROL DEVICE(S).  
[RULE 402]
  - 16. THE SAWDUST USED IN THE SLUDGE MANAGEMENT SYSTEM SHALL BE STORED AND KEPT SUFFICIENTLY MOIST TO PREVENT ANY AIR BORNE PARTICULATE MATTER EMISSIONS.  
[RULE 402]
  - 17. OCS D SHALL KEEP THE FOLLOWING DAILY RECORDS WITH REGARDS TO THE SLUDGE MANAGEMENT SYSTEM,



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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

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- I. THE AMOUNT OF SLUDGE DEWATERED IN EACH DRYING BED.
  - II. NUMBER OF TRUCKS WASHED.
  - III. NUMBER OF LEAKY OR OVERFILLED TRUCKS.
- [RULE 204]

18. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.
- [RULE 204]

## Catherine Rodriguez

**From:** Catherine Rodriguez  
**Sent:** Thursday, August 23, 2012 8:34 AM  
**To:** 'R9AirPermits\_SC@epamail.epa.gov'  
**Cc:** Gaurang Rawal; Amir Dejbakhsh; Charles Tupac; Jay Chen  
**Subject:** Orange County Sanitation District (OCSD) Sewage Treatment Plant, Fountain Valley (017301) Final De Minimis Significant  
**Attachments:** ID 17301 OCSD Sewage Treatment Plant -Fountain Valley - Facility Cover Letter ANs 512830 512831 520793 520794 520795.pdf; ID 17301 OCSD Sewage Treatment Plant-Fountain Valley -Final Revised TV Permits ANs 512830 512831 520793 520794 520795.pdf

**Facility Name:** Orange County Sanitation District (OCSD), Sewage Treatment Plant, Fountain Valley

**Facility ID:** 017301

**Address:** 10844 Ellis Ave., Fountain Valley, CA

**Type of Mod:** Final De Minimis Significant Revision

**Description:**

**Section D:**

Appl. No.	Equipment	Description
512830	Storage Tank, Hydrochloric Acid	Existing storage tank, fixed roof, for hydrochloric acid, 8,000 – gallon, venting to a passive activated carbon drum.
512831	Storage Tank, Hydrochloric Acid	Existing storage tank, fixed roof, for hydrochloric acid, 2,000 – gallon, venting to a passive activated carbon drum.

**Section H:**

Appl. No.	Equipment	Description
520793	Odor Control equipment, 40, 000 cfm capacity	Odor control equipment consisting of multi-stage chemical scrubbers and GAC system treating 40,000 cfm exhaust from Sludge Thickening and Dewatering Building.
520794	Sewage Treatment Plant > 5 MGD, anaerobic	Modifications to sewage treatment plant > 5 MGD, anaerobic, (PC 453210) by installations of New Sludge Thickening and Dewatering Facility.

**Title V Revision Application #: 520795**

**Attachments:**

1. Facility Cover Letter
2. Final Revised TV Permit

Please contact me if there are any problems with the transmission of the attached files.

*Catherine Rodriguez*

Secretary to

Jay Chen, Sr. AQ Engineering Manager

South Coast Air Quality Management District

Engineering and Compliance Division

Refinery/Waste Mgmt/Terminals -Permitting

21865 Copley Drive

Diamond Bar, CA 91765

(909) 396-2735; [crodriguez@aqmd.gov](mailto:crodriguez@aqmd.gov)

## N S R   D A T A   S U M M A R Y   S H E E T

Application No: 520795  
Application Type: De minimis Significant permit revision  
Application Status: PENDAPPRV  
Previous Apps, Dev, Permit #: NONE

Company Name: ORANGE COUNTY SANITATION DISTRICT  
Company ID: 17301  
Address: 10844 ELLIS AVE, FOUNTAIN VALLEY, CA 92708  
RECLAIM: NO  
RECLAIM Zone: 01  
Air Basin: SC  
Zone: 18  
Title V: YES

Device ID: 0 - TITLE-V  
Estimated Completion Date:  
Heat Input Capacity: 0 Million BTU/hr  
Priority Reserve: NONE - No Priority Access Requested  
Recommended Disposition: 32 - BANKING/ PLAN GRANTED  
PR Expiration:  
School Within 1000 Feet: NO  
Operating Weeks Per Year: 52  
Operating Days Per Week: 5  
Monday Operating Hours: 08:00 to 16:00  
Tuesday Operating Hours: 08:00 to 16:00  
Wednesday Operating Hours: 08:00 to 16:00  
Thursday Operating Hours: 08:00 to 16:00  
Friday Operating Hours: 08:00 to 16:00  
Saturday Operating Hours: 00:00 to 00:00  
Sunday Operating Hours: 00:00 to 00:00



Emittant: ROG  
BACT:  
Cost Effectiveness: NO  
Source Type: MINOR  
Emission Increase: 0  
Modeling: N/A  
Public Notice: N/A  
CONTROLLED EMISSION  
Max Hourly: 0 lbs/hr  
Max Daily: 0 lbs/day  
UNCONTROLLED EMISSION  
Max Hourly: 0 lbs/hr  
Max Daily: 0 lbs/day  
CURRENT EMISSION  
BACT 30 days Avg: 0 lbs/day  
Annual Emission: 0 lbs/yr  
District Exemption: None

SUPERVISOR'S APPROVAL: Cor SUPERVISOR'S REVIEW DATE: 8/22/11

Processed By: gaurangr 8/18/2011 3:22:55 PM

# ENGINEERING DIVISION... MEMORANDUM

TO	File	FROM	AD	DATE	8/17/12
REFERENCE	OCSD, Title V Revision			PERMIT APPL. NO.	520795
SUBJECT	EPA Comment Period				
The 45 day EPA review period ended					
on or about August 4, 2012. No comments					
were received from EPA.					

# ENGINEERING DIVISION.... MEMORANDUM

To	File	FROM	AD	DATE	8/17/12
REFERENCE	OCSD, Title II Revision			PERMIT APPL. No.	514393
SUBJECT	Grouping of A/NS 512830 and 512831.				
<p>Application Nos. 512830 and 512831 were originally sent to EPA under this application for 45-day review and comment period. No comments were received from EPA during the commenting period. However, OCSD requested modifications to the conditions for both applications which required re-submittal of both applications (512830 and 512831) to EPA for review and comment again. These applications (512830 and 512831) were resubmitted to EPA along with A/NS 520793 and 520794 under Title II Revision A/N 520795. Again no comments were received from EPA and permits were finalized for all four applications. Unfortunately since the tracking for A/N 514393 was closed, the computer system (PAATS) did not allow us to group A/NS 512830 and 512831 with the latest Title II Revision Application (520795). Therefore both Title II revision applications (A/NS 520795 and 514393) now need to be approved. In the PAATS system, A/NS 512830 and 512831 will be grouped under A/N 514393 and A/NS 520793 and 520794 will be grouped under A/N 520795.</p>					

**Lisa Wong**

**From:** Lisa Wong  
**Sent:** Tuesday, June 19, 2012 5:35 PM  
**To:** 'R9AirPermits\_SC@epa.gov'  
**Cc:** Gaurang Rawal; Amir Dejbakhsh; Charles Tupac; Jay Chen; Catherine Rodriguez  
**Subject:** Orange County Sanitation District (OCSD) (017301) Proposed De Minimis Significant Revision  
**Attachments:** EPA Cover Letter (017301) AN 512830 512831 520793 520794.pdf; Draft Permit (017301) AN 512830 512831 520793 520794.pdf.pdf; Engineer Evaluation (017301) AN 512830 512831 520793 520794.pdf.pdf

*45-day ends Aug-4, 2012*

**Facility Name:** Orange County Sanitation District (OCSD), Sewage Treatment Plant, Fountain Valley

**Facility ID:** 017301

**Address:** 10844 Ellis Ave., Fountain Valley, CA

**Type of Mod:** Proposed De Minimis Significant Revision

**Description:**

**Section D:**

Appl. No.	Equipment	Description
512830	Storage Tank, Hydrochloric Acid	Existing storage tank, fixed roof, for hydrochloric acid, 8,000 –gallon, venting to a passive activated carbon drum.
512831	Storage Tank, Hydrochloric Acid	Existing storage tank, fixed roof, for hydrochloric acid, 2,000 –gallon, venting to a passive activated carbon drum.

**Section H:**

Appl. No.	Equipment	Description
520793	Odor Control equipment, 40,000 cfm capacity	Odor control equipment consisting of multi-stage chemical scrubbers and GAC system treating 40,000 cfm exhaust from Sludge Thickening and Dewatering Building.
520794	Sewage Treatment Plant > 5 MGD, anaerobic	Modifications to sewage treatment plant > 5 MGD, anaerobic, (PC 453210) by installations of New Sludge Thickening and Dewatering Facility.

**Title V Revision Application #: 520795**

**Attachments:**

1. EPA Cover Letter
2. Draft Permit
3. Engineering Evaluation

Please contact me if there are any problems with the transmission of the attached files.

Thanks,

**Lisa Wong**

Engineering & Compliance  
Refinery and Waste Management Permitting  
South Coast Air Quality Management District  
Phone: 909.396.2820  
Email: [lwong@aqmd.gov](mailto:lwong@aqmd.gov)



# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • www.aqmd.gov

June 14, 2012

Via electronic submittal

Mr. Gerardo Rios  
USEPA – Region IX  
Mail Stop A-5-2  
75 Hawthorne Blvd.  
San Francisco, CA 94105

Dear Mr. Rios,

Proposed De Minimis Significant Revision to Title V Permit for Orange County Sanitation District (OCSD), Sewage Treatment Plant, Fountain Valley (ID# 017301)

Enclosed for your 45-day review is the proposed revision to the Title V Permit (A/N 520795) for OCSD, sewage treatment plant located at 10844 Ellis Avenue, Fountain Valley, CA, in Orange County. This revision is considered to be a de minimis significant. We are enclosing the appropriate pages of the proposed Section D and Section H, which include the permits as shown below, and the engineering evaluations. Please note that Section D permits are revised evaluations with an increased HCL acid tank filling limit from initial 2000 gallons to 6000 gallons, with negligible impact on emission.

SECTION D, REVISION 02, PERMIT TO OPERATE

Appl. No.	Equipment	Description
512830	Storage Tank, Hydrochloric Acid	Existing storage tank, fixed roof, for hydrochloric acid, 8,000 –gallon, venting to a passive activated carbon drum.
512831	Storage Tank, Hydrochloric Acid	Existing storage tank, fixed roof, for hydrochloric acid, 2,000 –gallon, venting to a passive activated carbon drum.

SECTION H, REVISION 02, PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

Appl. No.	Equipment	Description
520793	Odor Control equipment, 40, 000 cfm capacity	Odor control equipment consisting of multi-stage chemical scrubbers and GAC system treating 40,000 cfm exhaust from Sludge Thickening and Dewatering Building.
520794	Sewage Treatment Plant > 5 MGD, anaerobic	Modifications to sewage treatment plant > 5 MGD, anaerobic, (PC 453210) by installations of New Sludge Thickening and Dewatering Facility.

Most recent Title V revision permit for this facility was issued on August 27, 2010.

Mr. Gerardo Rios  
USEPA – Region IX  
Title V Permit Revision  
OCSD, Facility ID. 17301

-2-

June 14, 2012

This request is being made via electronic submittal in order to facilitate your review. If you have any questions or need additional information, please contact Mr. Gaurang Rawal at (909) 396-2543 or by email at [grawal@aqmd.gov](mailto:grawal@aqmd.gov).

Sincerely,



Jay Chen, P.E.  
Senior AQ Engineering Manager  
Refinery and Waste Management Permitting

JC: CDT: GCR

Enclosures

cc: James D. Ruth, General Manager, OCSD, w/o Enclosures.  
Terry Ahn, OCSD with Permit Revision  
A/N 520795 - TV permit revision

## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. TBD

A/N 512830

619907 8/16/12

#### Equipment Description:

STORAGE TANK, FIXED ROOF, ID NO. 10ITNK037 (P1 HEADWORKS), HYDROCHLORIC ACID, 12' - 0" DIA. X 10' - 0" H., 8,000-GALLON CAPACITY AND VENTING THROUGH A 55-GALLON DRUM CONTAINING (50% SULPHASORB XL AND 50% SAFETYSORB BLEND OR EQUAL) ACTIVATED CARBON.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL STORE HYDROCHLORIC ACID WITH CONCENTRATION OF 38 WEIGHT PERCENT OR LESS ONLY.  
[RULE 204]
4. THE MAXIMUM AMOUNT OF HYDROCHLORIC ACID FILLED INTO THIS STORAGE TANK SHALL NOT EXCEED 6,000 GALLONS PER MONTH.  
[RULE 1303 (b) (1) - OFFSET]
5. THIS EQUIPMENT SHALL NOT BE FILLED UNLESS THE VENT GASES PASS THROUGH A 55-GALLON DRUM CONTAINING ACTIVATED CARBON.  
[RULE 1303 (a) (1)-BACT]
6. THE OPERATOR SHALL REPLACE THE CARBON PER MANUFACTURER'S RECOMMENDATION.  
[RULE 204]
7. RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 204]

## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. TBD  
A/N 512831

G19908 8/16/02

#### Equipment Description:

STORAGE TANK, FIXED ROOF, ID NO. 111TNK100 (P1 PRIMARY), HYDROCHLORIC ACID, 6' - 0" DIA. X 11' - 0" H., 2,000-GALLON CAPACITY AND VENTING THROUGH A 55-GALLON DRUM CONTAINING (50% SULPHASORB XL AND 50% SAFETYSORB BLEND OR EQUAL) ACTIVATED CARBON.

#### Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL STORE HYDROCHLORIC ACID WITH CONCENTRATION OF 38 WEIGHT PERCENT OR LESS ONLY.  
[RULE 204]
4. THE MAXIMUM AMOUNT OF HYDROCHLORIC ACID FILLED INTO THIS STORAGE TANK SHALL NOT EXCEED 6,000 GALLONS PER MONTH.  
[RULE 1303 (b) (1) - OFFSET]
5. THIS EQUIPMENT SHALL NOT BE FILLED UNLESS THE VENT GASES PASS THROUGH A 55-GALLON DRUM CONTAINING ACTIVATED CARBON.  
[RULE 1303 (a) (1)-BACT]
6. THE OPERATOR SHALL REPLACE THE CARBON PER MANUFACTURER'S RECOMMENDATION.  
[RULE 204]
7. RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 204]



## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

### **PERMIT TO CONSTRUCT**

**A/N 520793  
Pending Approval**

#### **Equipment Description:**

ODOR CONTROL SCRUBBER SYSTEM FOR NEW SLUDGE THICKENING AND DEWATERING FACILITY (JOB NO. P1-101), CONSISTING OF:

1. FOUL AIR EXHAUST DUCT FROM NEW SLUDGE THICKENING AND DEWATERING BUILDING, TOTAL 40,000 CFM.
2. THREE (3) EXHAUST BLOWERS, EACH 20,000 CFM.
3. THREE (3) CHEMICAL SCRUBBERS, EACH 3-STAGE, SIEMENS MODEL LP-6500 OR DUALL MODEL PMTD OR EQUIVALENT, VERTICAL, PACKED BED TYPE, FIRST AND FINAL STAGE MIST ELIMINATORS, WITH OPTIONAL OXIDATION REDUCTION POTENTIAL (ORP) PROBES AND CONTROLLERS, THREE (3) SUMPS, SCRUBBER SOLUTION RECIRCULATION PUMPS AND FLOW METERS, AUTOMATIC CHEMICAL FEED METERING PUMP AND MAKEUP WATER SYSTEM, EACH WITH EXHAUST STACK, 3' DIA. X 33' – 9" H., AND WITH NO RAIN CAP.
4. ASSOCIATED SULFURIC ACID, SODIUM HYDROXIDE, AND SODIUM HYPOCHLORITE STORAGE TANKS.
5. OPTIONAL TWO (2) DUAL-BED ADSORBERS, IN PARALLEL, EACH SIEMENS MODEL RJC-1300-D OR DUALL MODEL CA-132DB OR EQUIVALENT, GRANULAR ACTIVATED CARBON, 20,000 SCFM, EACH WITH A EXHAUST STACK, 3' DIA. X 22' – 6" H., AND WITH NO RAIN CAP.

#### **CONDITIONS:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THE EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.  
[RULE 205]

## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

5. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCS D) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY). DEVIATIONS FROM THE ABOVE DESCRIPTION AND PROPOSED DESIGN AFFECTING EQUIPMENT PERFORMANCE OR EMISSIONS SHALL BE APPROVED IN WRITING BY THE AQMD.  
[RULE 204]
6. A SUFFICIENT NUMBER OF SCRUBBERS AND CARBON ADSORBERS (IF CONSTRUCTED) SHALL BE IN OPERATION WHEN THE BASIC EQUIPMENT ARE IN OPERATION TO MAINTAIN EXHAUST OUTLET H<sub>2</sub>S AND NH<sub>3</sub> CONCENTRATIONS IN COMPLIANCE WITH THE LIMITS AS SPECIFIED IN THIS PERMIT EXCEPT DURING UNFORSEEN AND ROUTINE MAINTENANCE WORK OR POWER OUTAGE IN THE PLANT THE REQUIRES THE EQUIPMENT TO BE SHUTDOWN FOR A PERIOD NOT TO EXCEED 10 HOURS PER INCIDENT PER EQUIPMENT AND 50 HOURS PER YEAR PER EQUIPMENT. A LOG OF SHUTDOWN DATE, DURATION, AND REASON FOR THE SHUTDOWN SHALL BE MAINTAINED.  
[RULE 402]
7. WHEN IN OPERATION, NO MORE THAN TWO (2) MULTI-STAGE CHEMICAL SCRUBBERS SHALL BE IN OPERATION.  
[RULE 204]
8. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH OF THE MULTI-STAGE CHEMICAL SCRUBBER TO INDICATE THE TOTAL AIR FLOW RATE IN CUBIC FEET PER MINUTE (CFM). THE MEASURED AIR FLOW RATE FOR EACH SCRUBBER SHALL NOT EXCEED 20,000 CFM. IN CASE A PRESSURE SENSOR DEVICE(S) IS USED IN PLACE OF THE FLOW METER(S), A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDENT FLOW RATE(S), IN CFM, TO THE PRESSURE READING.  
[RULE 204]
9. A PRESSURE DIFFERENTIAL GAUGE INDICATING THE PRESSURE DROP ACROSS EACH SCRUBBER PACKING BED SHALL BE INSTALLED AND MAINTAINED. THE PRESSURE DROP ACROSS EACH PACKING BED SHALL BE MAINTAINED WHEN THE SCRUBBER IS IN OPERATION PER MANUFACTURER'S RECOMMENDATION.  
[RULE 204]
10. A PH METER SHALL BE INSTALLED AND MAINTAINED, FOR EACH SCRUBBER STAGE (SUMP SOLUTION), TO INDICATE PH OF THE SCRUBBING SOLUTION. THE PH OF THE SCRUBBER SOLUTION FOR EACH SCRUBBER STAGE SHALL BE RECORDED ONCE PER DAY AND SHALL BE PROPERLY MAINTAINED TO ENSURE COMPLIANCE WITH THE EXHAUST LIMITS SPECIFIED IN CONDITION NO. 20.  
[RULE 204]
11. IF THE ORP IS CONSTRUCTED AND IS IN OPERATION, THE OXIDATION REDUCTION POTENTIAL (ORP) VALUE FOR EACH STAGE OF THE SCRUBBING SOLUTION SHALL BE MAINTAINED PER MANUFACTURER'S RECOMMENDATION.  
[RULE 204]

## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

12. A FLOW METER SHALL BE INSTALLED TO INDICATE SCRUBBING SOLUTION FLOW RATE FOR EACH SCRUBBER. THE SCRUBBING SOLUTION FLOW RATE (GPM) FOR EACH STAGE SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATION.  
[RULE 204]
13. WHEN IN OPERATION, FOR EACH SCRUBBER THE FOUL-AIR FLOW RATE, SCRUBBING SOLUTION FLOW RATE, PH, AND PRESSURE DIFFERENTIAL ACROSS THE SCRUBBER PACKING BED SHALL BE MONITORED AND RECORDED AT LEAST ONCE A DAY FOR THE FIRST MONTH OF OPERATION AND WEEKLY THEREAFTER.  
[RULE 204]
14. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH CARBON ADSORBER TO INDICATE THE EXHAUST AIR (FROM CHEMICAL SCRUBBER UNITS) TREATED, IN CUBIC FEET PER MINUTE (SCFM). IN CASE A PRESSURE SENSOR DEVICE IS USED IN PLACE OF THE FLOW METER, A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDING FLOW RATE, IN CFM, TO THE PRESSURE READING.  
[RULE 204]
15. MAXIMUM EXHAUST AIR FLOW TO BE TREATED BY EACH OF THE CARBON ADSORBER SHALL NOT EXCEED 20,000 SCFM.  
[RULE 204]
16. WITHIN 180 DAYS AFTER INITIAL START-UP, ORANGE COUNTY SANITATION DISTRICT (OCS D) SHALL CONDUCT SOURCE TESTS TO DETERMINE EMISSIONS FROM THE ODOR CONTROL SYSTEM DESCRIBED IN THIS PERMIT AS INSTALLED; IN ACCORDANCE WITH THE AQMD APPROVED SOURCE TESTS PROTOCOL. A TEST PROTOCOL INCLUDING ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, WASTE MANAGEMENT & BULK TERMINALS PERMITTING TEAM, FOR APPROVAL AT LEAST 60 DAYS PRIOR TO START OF THE TESTS. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL DETERMINE THE EMISSIONS TO ATMOSPHERE FROM THE ODOR CONTROL SYSTEM FOR:
  - A. AMMONIA AND HYDROGEN SULFIDE (H<sub>2</sub>S), (LBS/HR AND PPMV) – EXHAUST TO ATMOSPHERE.
  - B. CARBON DIOXIDE, OXYGEN AND NITROGEN
  - C. MOISTURE CONTENT, TEMPERATURE AND EXHAUST FLOW RATE.[RULE 204, 1401]
17. ADEQUATE NUMBER OF SAMPLING PORTS WITH ITS SAFE ACCESS SHALL BE INSTALLED AND MAINTAINED FOR THE ODOR CONTROL UNIT AND EXHAUST STACKS IN ACCORDANCE WITH SCAQMD'S RULE 217.  
[RULE 217]

## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

18. WHEN IN OPERATION, A PRESSURE DIFFERENTIAL GAUGE INDICATING THE PRESSURE DROP (INCHES OF WATER COLUMN) ACROSS EACH CARBON BED SHALL BE INSTALLED AND MAINTAINED. THE PRESSURE DROP ACROSS EACH CARBON BED SHALL BE MAINTAINED AS PER MANUFACTURER'S SPECIFICATION AND RECOMMENDATION. PRESSURE DROP READING SHALL BE RECORDED AT LEAST ONCE A DAY FOR THE FIRST MONTH OF OPERATION AND WEEKLY THEREAFTER.  
[RULE 204]
19. AMMONIA (NH<sub>3</sub>) AND HYDROGEN SULFIDE (H<sub>2</sub>S) CONCENTRATIONS (PPMV), AT THE EXHAUST STACKS, SHALL BE MONITORED USING HANDHELD DEVICES (USING LOW RANGE CONCENTRATION DETECTION LIMIT) OR OTHER APPROVED METHODS AT LEAST ONCE A DAY WHEN EQUIPMENT IS IN OPERATION.  
[RULE 204]
20. EMISSIONS FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING.
- |                  |        |
|------------------|--------|
| H <sub>2</sub> S | 1 PPMV |
| NH <sub>3</sub>  | 5 PPMV |
- IF MORE THAN ONE READING IS MADE IN A DAY, THE DAILY AVERAGE CONCENTRATION OF THE READINGS SHALL NOT EXCEED THE LIMITS SPECIFIED ABOVE.  
[RULE 402]
21. ACTIVATED CARBON IN THE ADSORBER SHALL BE REPLACED WITH FRESH ONE AS PER MANUFACTURER'S RECOMMENDATION TO MAINTAIN DESIRED CONTROL EFFICIENCY, RECORDS FOR CARBON REPLACEMENT EVENTS, WITH DATE, TYPE AND QUANTITY SHALL BE MAINTAINED ON FILE.  
[RULE 204]
22. SPENT CARBON REMOVED FROM THIS SYSTEM SHALL BE MAINTAINED OR STORED IN CLOSED CONTAINERS PRIOR TO REMOVAL FROM SITE.  
[RULE 204]
23. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.  
[RULE 204]

## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

### **PERMIT TO CONSTRUCT**

**A/N 520794  
Pending Approval**

#### **Equipment Description:**

ALTERATION OF THE EXISTING SEWAGE TREATMENT PLANT (216 MGD), COVERED BY PERMIT TO CONSTRUCT APPLICATION NO. 453210 (AND EXISTING P/O F66565), CONSISTING OF:

1. HEADWORKS STATION NO. 1 WITH TWO GRIT CHAMBERS, 28'-0" L. X 20'-0" W. X 14'-0" D., TWO SPLITTER BOXES, 15'-0" L. X 4'-0" W. X 7'-6" D., TWO GRIT CLASSIFIERS, AND ASSOCIATED PUMPS AND BLOWER.
2. HEADWORKS STATION NO. 2 WITH FIVE GRIT CHAMBERS, 38'-0" L. X 20'-0" W. X 14'-0" D., THREE SPLITTER BOXES, 15'-0" L. X 8'-0" W. X 15'-0" D., FOUR BAR SCREENS WITH A RAKE ASSEMBLY, EIGHT GATE OPERATORS, FIVE SPLITTER BOX WEIR GATE OPERATORS, AND ASSOCIATED PUMPS, BLOWERS AND COMPRESSOR.
3. FIFTEEN PRIMARY BASINS CONSISTING OF TWO 188'-0" L. X 40'-0" W. X 9'-0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS, THREE 140'-0" DIA. X 9'-0" D. CIRCULAR BASINS WITH ALUMINUM GEODESIC DOME COVERS, TEN 10'-0" L. X 195'-0" W. X 10'-0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS AND ASSOCIATED PUMPS AND BLOWERS.
4. FOUR TRICKLING FILTERS, EACH 180' DIA. X 6'-0" D., WITH TWO GATE OPERATORS AND ASSOCIATED PUMPS.
5. SECONDARY CLARIFIERS CONSISTING OF ONE 140'-0" DIA. X 9'-0" D. AND TWENTY-FOUR 150'-0" L. X 40'-0" W. X 10'-0" D. WITH ASSOCIATED PUMPS.
6. ACTIVATED SLUDGE PLANT PRIMARY EFFLUENT PUMP STATION WITH ASSOCIATED PUMPS.
7. TEN AERATION BASINS, EACH 275'-0" L. X 45'-0" W. X 15'-0" D. WITH ASSOCIATED BLOWERS.
8. SIX SLUDGE THICKENERS, EACH 40'-0" DIA. X 8'-0" D., WITH ASSOCIATED SWEEP DRIVER AND CONVEYORS.
9. TWELVE DIGESTER TANK CONSISTING OF FOUR 90'-0" DIA. X 30'-0" D, EACH 208,780 CUBIC FEET CAPACITY, EIGHT 110'-0" DIA. X 30'-0" D, EACH APPROXIMATELY 330,430 CUBIC FEET CAPACITY WITH ASSOCIATED PUMPS AND COMMINUTERS (GRINDERS). EACH DIGESTER IN OPERATION EQUIPPED WITH TWO PASSIVE CARBON ADSORBERS (55 GALLONS OR LESS VOLUME) USING NO MECHANICAL VENTILATION.
10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'-0" L. X 56'-0" W. X 3'-2" D.
11. DIGESTER GAS STORAGE TANKS, 25,000 CUBIC FEET CAPACITY, 42'-0" DIA. X 33'-6" H. WITH THREE COMPRESSORS.

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12. SLUDGE PROCESSING STATION WITH TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES, TRANSFER PUMP HOPPERS, AUGERS, STORAGE HOPPERS AND A TRUCK LOAD-OUT HOPPER.
  - 13.\* SIXTEEN PRIMARY BASINS, 195'-0" L. X 40'-0" W. X 10'-0" D., EACH WITH CONCRETE COVERS AND 6 MGD AVERAGE CAPACITY AND ASSOCIATED PUMPS AND BLOWERS.
  - 14.\* FOUR EXISTING TRICKLING FILTERS (ITEM NO. 4 ABOVE) REPLACED WITH TWO NEW TRICKLING FILTERS, EACH 166' DIA. X 20' - 0" MEDIA DEPTH, AND ASSOCIATED PUMPS. EACH NEW TRICKLING FILTER WITH TWO EXHAUST STACKS, EACH STACK 40' HIGH, AND WITH A TOTAL AIR FLOW RATE OF 25,000 CFM PER TRICKLING FILTER.
  - 15.\* ONE EXISTING SECONDARY CLARIFIER (ITEM NO. 5 ABOVE) REPLACED WITH TWO NEW SECONDARY CLARIFIERS CONSISTING OF 175' - 0" DIA. X 15' - 0" D. WITH ASSOCIATED PUMPS.
- \* Construction for the above items 13, 14, and 15 has been completed (under A/N 407071).

**BY THE ADDITION OF:** (OCSJ JOB NO. P1-82 ACTIVATED SLUDGE PLANT REHABILITATION) UNDER A/N 432418.

16. TWO NEW SECONDARY CLARIFIERS, EACH 150'-0" L. X 40'-0" W. X 10'-0" D.

**BY THE REMOVAL OF:**

10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'-0" L. X 56'-0" W. X 3'-2" D. (SEE ITEM 10 ABOVE)

**AND BY THE ADDITION OF:**

17. NEW SECONDARY ACTIVATED SLUDGE FACILITY 2 (OCSJ JOB NO. P1-102), AND NEW SLUDGE DEWATERING BEDS (OCSJ JOB NO. P1-106, CONSTRUCTION COMPLETED AND CURRENTLY IN OPERATION) UNDER A/N 453210,
  - I. SIX AERATION BASINS (NOS. 11 THROUGH 16), COVERED, EACH 227' - 2" L. X 45' - 0" W. X 26' - 0" D., WITH ASSOCIATED AERATION BLOWERS, DIFFUSERS, MIXERS, AND PUMPS, AND VENTING THROUGH SIX STACKS, EACH 7'-11" H., AND 10,000 SCFM.
  - II. SIX SECONDARY CLARIFIERS (NOS. 27, 29, 31, 32, 33, AND 34), UNCOVERED, EACH 155' DIA. X 16' SIDE WATER D., WITH ASSOCIATED RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SECONDARY SCUM PUMPS.
  - III. SODIUM HYPOCHLORITE (NaOCl) SOLUTION SYSTEM ADDITION (TO THE EXISTING BLEACH SYSTEM) FOR CHLORINATION OF THE TREATED EFFLUENT, RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SURFACE WASTE.

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**AND BY THE REPLACEMENT/UPGRADE OF:** (OCSD JOB NO. P1-101- NEW SLUDGE THICKENING AND DEWATERING FACILITY, NEW A/N 520794),

18. REPLACE TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES (LISTED UNDER ITEM NO. 12)
19. UPGRADE, REPLACE OR MODIFY;
  - I. SLUDGE CONVEYANCE AND PUMPING SYSTEM
  - II. BIOSOLIDS STORAGE AND LOAD-OUT SYSTEM
  - III. CHEMICAL FEED SYSTEM
  - IV. VENTILATION SYSTEM AND VARIOUS OTHER ELECTRICAL AND CONTROL SYSTEMS.
  - V. MODIFY EXISTING TRUCKLOADING FACILITY TO IMPROVE ODOR CONTROL AND TO ALLOW STORAGE AND CONVEYANCE OF A DRIER DEWATERED CAKE/BIOSOLIDS.

**AND BY THE ADDITION OF:** (OCSD JOB NO. P1-101- NEW SLUDGE THICKENING AND DEWATERING FACILITY, NEW A/N 520794),

20. THREE (3) SLUDGE BLENDING TANKS  
POLYMER SYSTEM CONSISTING OF POLYMER STORAGE, MIXING AND AGING TANKS.  
THREE (3) SLUDGE THICKENING CENTRIFUGES  
THREE (3) THICKENED SLUDGE WETWELLS  
THREE (3) DEWATERING CENTRIFUGES  
DEWATERED CAKE CONVEYANCE SYSTEM CONSISTING OF INCLINED SCREW CONVEYORS, HORIZONTAL/CROSS CONVEYERS, HORIZONTAL COLLECTOR CONVEYORS, CAKE HOPPERS AND TEMPORARY TRUCK LOAD OUT HOPPER.

**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL MAKE A WRITTEN REQUEST FOR AND OBTAIN AN EXTENSION OF TIME TO CONSTRUCT THIS EQUIPMENT ON AN ANNUAL BASIS UNTIL SUCH TIME CONSTRUCTION IS COMPLETED AND THE EQUIPMENT IS PUT INTO OPERATION. AT LEAST 30 DAYS PRIOR TO THE EXPIRATION DATE OF THE PERMIT TO CONSTRUCT, OCSD SHALL PROVIDE IN THE WRITTEN REQUEST, VERIFIABLE DATA TO AQMD IN ORDER TO SHOW COMPLIANCE WITH THE CONSTRUCTION SCHEDULE AS PROVIDED IN THE APPLICATION UNDER WHICH THIS PERMIT TO CONSTRUCT IS GRANTED. IF THERE ARE

## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

CHANGES TO THE INCREMENTS OF PROGRESS AND/OR CONSTRUCTION SCHEDULE, THEY WILL NOT BECOME EFFECTIVE UNTIL OCSO RECEIVES WRITTEN CONFIRMATION OF SUCH CHANGES FROM AQMD.

[RULE 204]

5. THE HEADWORKS FACILITIES, PRIMARY TREATMENT BASINS, AND NEW SLUDGE THICKENING AND DEWATERING AND SOLIDS PROCESSING AND HANDLING FACILITY (JOB P1-101) SHALL NOT BE OPERATED UNLESS THE EXHAUST AIR IS VENTED TO AIR POLLUTION CONTROL SYSTEMS, WHICH ARE IN OPERATION AND HAVE VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD. IN THE EVENT AIR POLLUTION CONTROL SYSTEM(S) ARE SHUTDOWN FOR CONSTRUCTION OR MAINTENANCE WORK, THE H<sub>2</sub>S EMISSIONS SHALL NOT EXCEED THE CONCENTRATION LIMITS AS SPECIFIED IN THEIR RESPECTIVE AIR POLLUTION CONTROL EQUIPMENT PERMIT.  
[RULE 402]
6. THE DAILY TOTAL INFLUENT FLOW, IN MILLION GALLONS PER DAY (MGD), TO THE HEADWORKS, PRIMARY TREATMENT PROCESS, AND SECONDARY TREATMENT PROCESS SHALL BE RECORDED.  
[RULE 204]
7. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE PRIMARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 216 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]
8. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE SECONDARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 182 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]
9. THE AVERAGE DAILY PRIMARY EFFLUENT FLOW RATE, TREATED BY THE NEW ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102 CONSISTING OF SIX AERATION BASINS AND SIX SECONDARY CLARIFIERS), SHALL NOT EXCEED 60 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 204]
10. WITHIN 60 DAYS AFTER ACHIEVING THE MAXIMUM INFLUENT FLOW RATE FOR THE ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102), BUT NOT LATER THAN 180 DAYS AFTER INITIAL START-UP, ORANGE COUNTY SANITATION DISTRICT (OCSO) SHALL CONDUCT SOURCE TESTS TO DETERMINE EMISSIONS FROM AT LEAST TWO OF THE SIX NEW AERATION BASINS' EXHAUST STACKS, AND AT LEAST TWO OF THE SIX NEW SECONDARY CLARIFIERS' SURFACE EMISSIONS, IN ACCORDANCE WITH THE AQMD OR OTHER APPROVED TEST PROCEDURES. A TEST PROTOCOL INCLUDING ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, REFINERY AND WASTE MANAGEMENT TEAM, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. NOTICE SHALL BE PROVIDED TO THE AQMD 10



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DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL DETERMINE THE EMISSIONS TO ATMOSPHERE FROM TWO OF THE AERATION BASINS AND TWO OF THE SECONDARY CLARIFIERS FOR:

- A. TOTAL NON-METHANE HYDROCARBONS (TNMHC) AND TOXIC AIR CONTAMINANTS (TAC) PRESENT, (LBS/HR AND PPMV).
  - B. AMMONIA AND HYDROGEN SULFIDE (H<sub>2</sub>S), (LBS/HR AND PPMV).
  - C. CARBON DIOXIDE, OXYGEN AND NITROGEN
  - D. MOISTURE CONTENT, TEMPERATURE AND EXHAUST FLOW RATE.
- 
11. ADEQUATE NUMBER OF SAMPLING PORTS WITH ITS SAFE ACCESS, SHALL BE INSTALLED AND MAINTAINED IN THE AERATION BASINS' EXHAUST STACK (JOB NO. P1-102) IN ACCORDANCE WITH SCAQMD'S RULE 217.  
[RULE 217]
  12. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL CALCULATE THE MAXIMUM INDIVIDUAL CANCER RISK (MICR), ACUTE HAZARD INDEX (HIA) AND CHRONIC HAZARD INDEX (HIC), BASED ON THE SOURCE TESTS RESULTS, USING AQMD PUBLISHED "RISK ASSESSMENT PROCEDURES FOR RULES 1401 AND 212" (VERSION 7.0, JULY 1, 2005), TO DETERMINE THE COMPLIANCE WITH RULE 1401. RESULTS SHALL BE SUBMITTED TO AQMD.  
[RULE 1401]
  13. IF SOURCE TESTS RESULTS INDICATE THAT THE TOTAL VOLATILE ORGANIC COMPOUNDS (VOC) EMISSIONS FROM THE AERATION BASINS EXCEED 13 LBS PER DAY OR AS DETERMINED BY AQMD, THEN OCSD SHALL CONDUCT IN DETAIL THE TECHNOLOGICAL FEASIBLE STUDY AND COST-EFFECTIVENESS ANALYSIS FOR A SUITABLE AIR POLLUTION CONTROL EQUIPMENT TO DETERMINE LOWEST ACHIEVABLE EMISSION RATE (LAER) FROM SUCH PROCESS.  
[RULE 1303 (a) (1) – BACT]
  14. THE HYDROGEN SULFIDE (H<sub>2</sub>S) CONCENTRATION (PPMV) IN THE EXHAUST STACKS OF EACH TRICKLING FILTER SHALL BE MEASURED AND RECORDED ON A DAILY BASIS.  
[RULE 402]
  15. RAW DIGESTER GAS PRODUCED AT THIS FACILITY SHALL NOT BE RELEASED INTO THE ATMOSPHERE. ALL COLLECTED DIGESTER GAS SHALL BE EITHER COMBUSTED IN DIGESTER GAS FLARES, INTERNAL COMBUSTION ENGINES, OR BOILERS WITH VALID AQMD PERMIT, OR SHALL BE TREATED THROUGH A PERMITTED AIR POLLUTION CONTROL DEVICE(S).  
[RULE 402]
  16. THE SAWDUST USED IN THE SLUDGE MANAGEMENT SYSTEM SHALL BE STORED AND KEPT SUFFICIENTLY MOIST TO PREVENT ANY AIR BORNE PARTICULATE MATTER EMISSIONS.  
[RULE 402]
  17. OCSD SHALL KEEP THE FOLLOWING DAILY RECORDS WITH REGARDS TO THE SLUDGE MANAGEMENT SYSTEM,

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- I. THE AMOUNT OF SLUDGE DEWATERED IN EACH DRYING BED.
  - II. NUMBER OF TRUCKS WASHED.
  - III. NUMBER OF LEAKY OR OVERFILLED TRUCKS.  
[RULE 204]
18. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.  
[RULE 204]

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  ENGINEERING AND COMPLIANCE DIVISION  PERMIT APPLICATION EVALUATION AND CALCULATIONS	PAGES 2	PAGE 1
	APPL NO 520795	DATE 8/18/2011
	PROCESSED BY GCR	CHECKED BY AS

**TITLE V PERMIT REVISION EVALUATION**  
(SECTION D, REV 03 AND SECTION H, REV 03)

**APPLICANT'S NAME:** ORANGE COUNTY SANITATION DISTRICT (OCSD)

**MAILING ADDRESS:** 10844 ELLIS AVENUE  
FOUNTAIN VALLEY, CA 92708  
ATTN.: TERRY AHN, REGULATORY SPECIALIST

**EQUIPMENT ADDRESS:** WASTEWATER TREATMENT PLANT NO. 1  
"SAME AS ABOVE"

**FACILITY ID NO.:** 017301

**Background:**

A/N 520795 for Title V revision was submitted 04/07/2011. This revision will include A/N 520793, for new construction of the odor control system, consisting of multi-stage chemical scrubbers followed by granular activated carbon (GAC) system, to treat 40,000 cfm of exhaust air from the new sludge thickening and dewatering building. Also, A/N 520794 is filed for modifications to the existing sewage treatment plant (PC453210) for installations of New Sludge Thickening and Dewatering Facility (155 MGD capacity), and all equipment to be located within a building.

Previously application 514193 was submitted for Title V permit revision on 09/08/2010. This revision was to include two (2) applications (512830 and 512831) for permit to operate existing acid storage tanks vented to the carbon drum (Under Rule 310- Amnesty for Unpermitted Equipment).

Acid storage tanks' permits will be incorporated under this TV revision A/N 520795 under Section D.

Note: Evaluations for A/N 512830 and 512831 has been revised to accommodate OCSD's request for increased acid filling limit on a monthly basis (Condition No. 4) from 2000 gallons to 6000 gallons. This change has negligible impact on emissions.

Most recent Title V permit revisions were issued on May 5, 2010 (Section H, Rev #2) and August 27, 2010 (Section D, Rev #2).

**Evaluation:**

New construction and modifications applications described above (520793 and 520794) are considered a De-Minimis Significant Revision, as emission increase is below daily maximum threshold and would not result in new or additional requirements pursuant to NSPS (40 CFR Part 60) or NESHAP (40 CFR Part 61 or 63).

Acid storage tanks (512830 and 512531) are also considered De-Minimis Significant revision.

Review of the actual toxic pollutants' emissions data for the year 2009 and 2010 indicated Formaldehyde emission of <10 TPY (19,126 lbs/yr for 2009 and 19,297 lbs/yr for 2010).

The proposed Title V revision consists of the following. Public notice is not required; however, it is subject to EPA 45-day review.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  ENGINEERING AND COMPLIANCE DIVISION  PERMIT APPLICATION EVALUATION AND CALCULATIONS	PAGES 2	PAGE 2
	APPL NO 520795	DATE 8/18/2011
	PROCESSED BY GCR	CHECKED BY

PERMIT TO OPERATE: Section D, Rev #3

<u>Application No.</u>	<u>Description</u>
512830	Acid Storage Tank (HCl), 8,000 gallons, with a passive carbon adsorber
512831	Acid Storage Tank (HCl), 2,000 gallons, with a passive carbon adsorber

PERMIT TO CONSTRUCT: Section H, Rev #3

<u>Application No.</u>	<u>Description</u>
520793	Odor Control equipment, 40, 000 cfm capacity
520794	Modifications to sewage treatment plant > 5 MGD, anaerobic (PC 453210)

Permit evaluations for above applications are included in folder.

**RULES EVALUATION: TV Revision**

**REG XXX:** Title V Permits

Compliance with this regulation is expected.

**CONCLUSIONS/RECOMMENDATION:**

The facility is expected to be in compliance with all applicable AQMD's Rules and Regulations. A De-minimis significant permit revision is recommended upon completion of EPA 45-day review/commenting period.

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### **PERMIT TO OPERATE EVALUATION**

**APPLICANT'S NAME:** ORANGE COUNTY SANITATION DISTRICT (OCSD)

**MAILING ADDRESS:** 10844 ELLIS AVENUE  
FOUNTAIN VALLEY, CA 92708-7018  
ATTN.: TERRY AHN, REGULATORY SPECIALIST

**EQUIPMENT ADDRESS:** SAME AS ABOVE (PLANT NO. 1)

**FACILITY ID.:** 017301

APPLICATION NO. 512830:

**EQUIPMENT DESCRIPTION:**

STORAGE TANK, FIXED ROOF, ID NO. 10ITNK037 (P1 HEADWORKS), HYDROCHLORIC ACID, 12' - 0" DIA. X 10' - 0" H., 8,000-GALLON CAPACITY AND VENTING THROUGH A 55-GALLON DRUM CONTAINING (50% SULPHASORB XL AND 50% SAFETYSORB BLEND OR EQUAL) ACTIVATED CARBON.

APPLICATION NO. 512831:

**EQUIPMENT DESCRIPTION:**

STORAGE TANK, FIXED ROOF, ID NO. 11ITNK100 (P1 PRIMARY), HYDROCHLORIC ACID, 6' - 0" DIA. X 11' - 0" H., 2,000-GALLON CAPACITY AND VENTING THROUGH A 55-GALLON DRUM CONTAINING (50% SULPHASORB XL AND 50% SAFETYSORB BLEND OR EQUAL) ACTIVATED CARBON.

**CONDITIONS:** (512830 / 512831)

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL STORE HYDROCHLORIC ACID WITH CONCENTRATION OF 38 WEIGHT PERCENT OR LESS ONLY.  
[RULE 204]
4. THE MAXIMUM AMOUNT OF HYDROCHLORIC ACID FILLED INTO THIS STORAGE TANK SHALL NOT EXCEED 6000 GALLONS PER MONTH.  
[RULE 1303 (b) (1) - OFFSET]

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5. THIS EQUIPMENT SHALL NOT BE FILLED UNLESS THE VENT GASES PASS THROUGH A 55-GALLON DRUM CONTAINING ACTIVATED CARBON.  
[RULE 1303 (a) (1)-BACT]
6. THE OPERATOR SHALL REPLACE THE CARBON PER MANUFACTURER'S RECOMMENDATION.  
[RULE 204]
7. RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 204]

### **BACKGROUND:**

On 7/22/2010, Orange County Sanitation District (OCSD) submitted above applications for permits to operate the existing HCl-acid storage tanks, at their Plant 1, for the headworks (512830) and primary treatment process (512831). These applications were submitted under the provision of Rule 310 (Amnesty for unpermitted equipment) and, hence, not subject to higher fees for PO no PC.

This is a Title V facility. A/N 514393 is also filed for the TV Revision.  
Most recent administrative revision to the Title V facility permit was issued August 27, 2010 (Section D, Rev 02).

This is a revised evaluation (for both tanks) to accommodate OCSD's request for increased monthly maximum acid filling limit from initial 2000 gallons to 6000 gallons. Impact on emission is negligible. EPA will be re-noticed for this change (Permit Condition No. 4)

### **PROCESS DESCRIPTION:**

The existing headworks and primary treatment processes consist of chemical scrubbers where recirculating scrubbing liquid trickles down through the packed bed and contacts the foul air which is passed up through the bed to remove odors. NaOH and NaOCl solutions used for the scrubber and HCl is used for periodic cleaning of the packed bed to remove hardwater deposits and chemical buildup.

Emission is revised based on 6000 gallon HCL/month tank filling limit.

### **EMISSIONS:**

**A/N 512830:** (8000 gal. Tank)

Working loss:

Acid filling rate: 2000 gallon truck delivery, pumped at @ 50 gpm, 3 times a year (40 minutes/event)

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Acid filling is revised to 6000 gallons/month, i.e. tank filling events at 3 times per month.

$$\begin{aligned}
 L_w &= (F)(1 \text{ cft}/7.48 \text{ gal})(1 \text{ lb-mole}/380 \text{ cf})(M_v)(P/14.7 \text{ psia}) \\
 &= 2.4 \times 10^{-5} \times F \times P \times M_v \\
 &= 2.4 \text{ E-05} \times 2000 \times 2.90 \times 36.5
 \end{aligned}$$

$$\begin{aligned}
 L_w &= \mathbf{5.08 \text{ lbs HCl /day}} \text{ (with no vapor return line to truck and vapor venting to passive C-drum)} \\
 &= 5.08 \text{ lbs/mo.} \\
 &= 5.08 \text{ lbs/mo.} \times 3 \text{ fillings in a month} = \mathbf{15.24 \text{ lbs/month}}
 \end{aligned}$$

$$L_w = \text{working loss (lb/day)}$$

$$F = \text{filling rate (gal/day), 2000 gal/day (40 min filling time)}$$

$$P = \text{true vapor pressure (psia)}$$

$$= 150 \text{ mm Hg @ 20 deg C, max. 37.14\% HCl (23}^0 \text{ Be)}$$

$$= 2.90 \text{ psia}$$

$$M_v = \text{molecular weight of vapor (lb/lb-mole)} = 36.5$$

#### Breathing loss:

$$L_B = (V_o)(\Delta T/T_{avg})(1/v)(P/14.7)(M_v)$$

$$L_B = \text{breathing loss (lb/day)}$$

$$V_o = \text{volume of vapor above liquid surface (cf)}$$

$$= 50\% \text{ of max tank vol of 1130 cf} = \mathbf{565 \text{ cf}}$$

$$\Delta T = \text{average daily temperature change (deg R or F)} = \mathbf{25 \text{ deg R}}$$

$$T_{avg} = \text{average daily temperature (deg R)} = 65 + 460 = \mathbf{525 \text{ deg R}}$$

$$(V_o)(\Delta T/T_{avg}) = \text{Vol of vapor expelled from the tank due to avg. temp. change (cft)}$$

$$P = \text{true vapor pressure (Psia)} = \mathbf{2.90 \text{ psia @ 20 deg C}}$$

$$V = 10.73 (\text{FT}^3 \text{ Psia/ lbmole } ^\circ\text{R}) T_{AV} (^\circ\text{R}) (1/14.7 \text{ psia})$$

$$= (10.73) (525)/14.7$$

$$= 383.21$$

$$(1/v) = 1/383.21 = \mathbf{0.0026}$$

$$M_v = \text{molecular weight of vapor (lb/lb-mole)} = \mathbf{36.5}$$

$$L_B = (565) (25/525) (0.0026) (2.90/14.7) (36.5)$$

$$= \mathbf{0.50 \text{ lbs/day}}$$

$$= 0.50 \times 30 = 15 \text{ lbs/mo}$$

No change in tank breathing loss for increased acid filling limit.

Total uncontrolled HCl emission = 15.24 + 15.0 = 30.24 lbs/mo = 1.01 lbs/day or 1.0 lb/hr (based on 1 hr fill time) (R1)

At 99% control efficiency\* for Carbon per OCSD E-mail information, Oct. 15, 2010 ),

$$= 30.24 \times (1.0 - 0.99)$$

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Controlled emission = 0.30 lb/mo = 0.01 lb/day = or 0.01 lb/hr (R2), based on 1 hr fill time.  
No offset required.

**A/N 512831:** (2000 gal. Tank)

The emissions can be assessed using the following equations:

Working loss:

Acid filling rate: 2000 gallon truck delivery, pumped at @ 50 gpm, 3 times per month (40 minutes/event)

Annual throughput = 7,800 gal (permit condition) per OCSD 10/14/2010 E-mail.

Acid filling is revised to 6000 gallons/month, i.e. tank filling events at 3 times per month.

$$L_w = (F)(1 \text{ cft}/7.48 \text{ gal})(1 \text{ lb-mole}/380 \text{ cf})(M_v)(P/14.7 \text{ psia})$$

$$= 2.4 \times 10^{-5} \times F \times P \times M_v$$

$$= 2.4 \text{ E-05} \times 2000 \times 2.90 \times 36.5$$

$$L_w = \mathbf{5.08 \text{ lbs HCl /day}}$$
 (with no vapor return line to truck and vapor venting to passive C-drum)

$$= 5.08 \text{ lb/mo.}$$

$$= 5.08 \text{ lbs/mo.} \times 3 \text{ fillings in a month} = \mathbf{15.24 \text{ lbs/month}}$$

$$L_w = \text{working loss (lb/day)}$$

$$F = \text{filling rate (gal/day), 2000 gal/day (40 min filling time, once every 4-month)}$$

$$P = \text{true vapor pressure (psia)}$$

$$= 150 \text{ mm Hg @ 20 deg C, max. 37.14\% HCl (23}^0 \text{ Be)}$$

$$= 2.90 \text{ psia}$$

$$M_v = \text{molecular weight of vapor (lb/lb-mole)} = 36.5$$

Breathing loss:

$$L_B = (V_o)(\Delta T/T_{avg})(1/v)(P/14.7)(M_v)$$

$$L_B = \text{breathing loss (lb/day)}$$

$$V_o = \text{volume of vapor above liquid surface (cf)}$$

$$= 50\% \text{ of max tank vol of 311 cf} = \mathbf{155 \text{ cf}}$$

$$\Delta T = \text{average daily temperature change (deg R or F)} = \mathbf{25 \text{ deg R}}$$

$$T_{avg} = \text{average daily temperature (deg R)} = 65 + 460 = \mathbf{525 \text{ deg R}}$$

$$(V_o)(\Delta T/T_{avg}) = \text{Vol of vapor expelled from the tank due to avg. temp. change (cft)}$$

$$P = \text{true vapor pressure (Psia)} = \mathbf{2.90 \text{ psia @ 20 deg C}}$$

$$V = 10.73 (FT^3 \text{ Psia/ lbmole } ^\circ R) T_{AV} (^\circ R) (1/14.7 \text{ psia})$$

$$= (10.73) (525)/14.7$$

$$= 383.21$$

$$(1/v) = 1/383.21 = \mathbf{0.0026}$$



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$M_V$  = molecular weight of vapor (lb/lb-mole) = 36.5

$L_B = (155) (25/525) (0.0026) (2.90/14.7) (36.5)$   
= 0.14 lbs/day

= 0.14 x 30 = 4.2 lbs/mo.

Total uncontrolled HCl emission = 15.24 + 4.2 = 19.44 lbs/mo = 0.648 lb/day or 0.648 lb/hr (R1), based on 1 hr fill time.

At 99% control efficiency for Carbon (per OCSD E-mail information, Oct. 15, 2010),  
= 19.44 x (1.0 - 0.99)

Controlled emission = 0.194 lb/mo = 0.0065 lb/day or 0.0065 lb/hr, based on 1 hour fill time, (R2)  
No offset required.

#### **RULES EVALUATION:**

##### **Rule 212:**

There are no schools within 1/4 mile of the emission source.  
HCl is non-carcinogenic- no risk. No public notice required. Compliance is expected.

##### **Rule 401 (Visible Emissions):**

With proper operation, maintenance and control of equipment compliance is expected.

##### **Rule 402 (Nuisance):**

With proper operation, maintenance and control of equipment compliance is expected.

##### **Regulation XIII:**

Whenever tank is filled and breathing, displaced vapors will be venting through the granular carbon media with assumed control efficiency of 99%.

No modeling or offsets is required. Compliance is expected.

##### **Rule 1401:**

HCl is not carcinogenic, no health risk.

Controlled HCl emission is less than chronic (298 lbs/yr) and acute (1.05 bs/hr), worst-case at 25 meters receptor, Screening Emission Levels listed under Table-1A. No further HIC/HIA evaluation is required. Compliance is expected.

##### **Rule 1401.1:**

Not applicable as this is an existing facility.

##### **REG. XXX:**

Compliance is expected. Title V revision A/N 514393 is filed to include these two permits (A/Ns 512830 & 512831).

##### **Recommendations:**

A permit to operate is recommended, for each of the above application, with proposed conditions listed on Pgs. 1-2.

Upon approval of these permits, it should be included under TV Revision (03), Section D.

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**PERMIT TO CONSTRUCT EVALUATION**

(Revsd as necessary based on OCSD comments to Draft PC, Oct 4, 2011)

**APPLICANT'S NAME:** ORANGE COUNTY SANITATION DISTRICT (OCSD)

**MAILING ADDRESS:** 10844 ELLIS AVENUE  
FOUNTAIN VALLEY, CA 92708  
ATTN.: TERRY AHN, REGULATORY SPECIALIST

**EQUIPMENT ADDRESS:** WASTEWATER TREATMENT PLANT NO. 1  
"SAME AS ABOVE"

**FACILITY ID NO.:** 017301

**EQUIPMENT DESCRIPTION:**

ODOR CONTROL SCRUBBER SYSTEM (SIEMENS, DUALL OR EQUIVALENT) FOR NEW SLUDGE THICKENING AND DEWATERING FACILITY (JOB NO. P1-101), CONSISTING OF:

1. FOUL AIR EXHAUST DUCT FROM NEW SLUDGE THICKENING AND DEWATERING BUILDING, TOTAL 40,000 CFM.
2. THREE (3) EXHAUST BLOWERS (ONE FOR STAND BY UNIT), EACH 100 H.P., 20,000 CFM.
3. THREE (3) CHEMICAL SCRUBBERS (ONE STANDBY UNIT), EACH 3-STAGE, SIEMENS MODEL LP-6500 OR DUALL MODEL PMTD OR EQUAL, VERTICAL, PACKED BED TYPE, EACH WITH JAEGER, APPROXIMATELY 15 FT. HIGH POLYPROPYLENE PACKING BED, FIRST AND FINAL STAGE MIST ELIMINATORS, AND EQUIPPED WITH PH AND OXIDATION REDUCTION POTENTIAL (ORP) PROBES AND CONTROLLERS, DIFFERENTIAL PRESSURE GAUGES, THREE (3) SUMPS, SCRUBBER SOLUTION RECIRCULATION PUMPS AND FLOW METERS, SPRAY NOZZLES, AUTOMATIC CHEMICAL FEED METERING PUMP AND MAKEUP WATER SYSTEM, AND ASSOCIATED SULFURIC ACID (97%), SODIUM HYDROXIDE (25% NaOH SOLUTION), AND SODIUM HYPOCHLORITE (12.5% NaOCl SOLUTION) STORAGE TANKS, EACH WITH EXHAUST STACK, 3' DIA. X 33' - 9" H., AND WITH NO RAIN CAP.
4. OPTIONAL TWO (2) DUAL-BED ADSORBERS, IN PARALLEL, EACH SIEMENS MODEL RJC-1300-D OR DUALL MODEL CA-132DB OR EQUIVALENT, GRANULAR ACTIVATED CARBON, 20, 000 SCFM, AND EQUIPPED WITH DIFFERENTIAL PRESSURE GAUGE, SAMPLING PORTS, INSTRUMENTATION, CONTROLS AND OTHER ACCESSORIES, EACH WITH A EXHAUST STACK, 3' DIA. X 22' - 6" H., AND WITH NO RAIN CAP.

**CONDITIONS:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]

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2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THE EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.  
[RULE 205]
5. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSO) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY). DEVIATIONS FROM THE ABOVE DESCRIPTION AND PROPOSED DESIGN AFFECTING EQUIPMENT PERFORMANCE OR EMISSIONS SHALL BE APPROVED IN WRITING BY THE AQMD.  
[RULE 204]
6. THE EXHAUST BLOWERS ASSOCIATED WITH THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS FOUL-AIR FROM THE SLUDGE THICKENING AND DEWATERING BUILDING IS VENTED THROUGH THE ODOR CONTROL SYSTEM DESCRIBED IN THIS PERMIT. AT NO TIME, THE OPERATOR SHALL ALLOW THE ESCAPE OF FOUL-AIR INTO THE ATMOSPHERE.  
[RULE 401, 402]
7. WHEN IN OPERATION, NO MORE THAN TWO (2) MULTI-STAGE CHEMICAL SCRUBBERS SHALL BE IN OPERATION.  
[RULE 204]
8. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH OF THE MULTI-STAGE CHEMICAL SCRUBBER TO INDICATE THE TOTAL AIR FLOW RATE IN CUBIC FEET PER MINUTE (CFM). THE MEASURED AIR FLOW RATE FOR EACH SCRUBBER SHALL NOT EXCEED 20,000 CFM. IN CASE A PRESSURE SENSOR DEVICE(S) IS USED IN PLACE OF THE FLOW METER(S), A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDENT FLOW RATE(S), IN CFM, TO THE PRESSURE READING.  
[RULE 204]
9. A PRESSURE DIFFERENTIAL GAUGE INDICATING THE PRESSURE DROP ACROSS EACH SCRUBBER PACKING BED SHALL BE INSTALLED AND MAINTAINED. THE PRESSURE DROP ACROSS EACH PACKING BED SHALL BE MAINTAINED WHEN THE SCRUBBER IS IN OPERATION PER MANUFACTURER'S RECOMMENDATION.  
[RULE 204]

*See  
sample  
permit*

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10. A PH METER SHALL BE INSTALLED AND MAINTAINED, FOR EACH SCRUBBER STAGE (SUMP SOLUTION), TO INDICATE PH OF THE SCRUBBING SOLUTION.
- THE PH FOR THE FIRST STAGE SCRUBBER SOLUTION (H<sub>2</sub>SO<sub>4</sub>) SHALL BE MAINTAINED AT OR BELOW 7.0.
- THE PH FOR THE 2<sup>ND</sup> AND 3<sup>RD</sup> STAGE SCRUBBER SOLUTION (NaOH AND NaOCl) SHALL BE MAINTAINED ABOVE 7.0.  
[RULE 204]
11. OXIDATION REDUCTION POTENTIAL (ORP) METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE ORP READING (mv) FOR THE SCRUBBING SOLUTION. THE ORP VALUES FOR EACH STAGE OF SCRUBBING SOLUTION SHALL BE MAINTAINED PER MANUFACTURER'S RECOMMENDATION.  
[RULE 1303 (a)(1)- BACT]
12. A FLOW METER SHALL BE INSTALLED TO INDICATE SCRUBBING SOLUTION FLOW RATE FOR EACH SCRUBBER. THE SCRUBBING SOLUTION FLOW RATE (GPM) FOR EACH STAGE SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATION.  
[RULE 204]
13. WHEN IN OPERATION, FOR EACH SCRUBBER THE FOUL-AIR FLOW RATE, SCRUBBING SOLUTION FLOW RATE, PH, ORP AND PRESSURE DIFFERENTIAL ACROSS THE SCRUBBER PACKING BED SHALL BE MONITORED AND RECORDED AT LEAST ONCE A DAY.  
[RULE 204]
14. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH CARBON ADSORBER TO INDICATE THE EXHAUST AIR (FROM CHEMICAL SCRUBBER UNITS) TREATED, IN CUBIC FEET PER MINUTE (SCFM). IN CASE A PRESSURE SENSOR DEVICE IS USED IN PLACE OF THE FLOW METER, A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDING FLOW RATE, IN CFM, TO THE PRESSURE READING.  
[RULE 204]
15. MAXIMUM EXHAUST AIR FLOW TO BE TREATED BY EACH OF THE CARBON ADSORBER SHALL NOT EXCEED 20,000 SCFM.  
[RULE 204]
16. WITHIN 90 DAYS AFTER START UP OF THE NEW SLUDGE THICKENING AND DEWATERING EQUIPMENT (OCSO JOB NO. P1-101), OPERATING AT A STEADY STATE, BUT NOT LATER THAN 180 DAYS AFTER INITIAL START-UP, ORANGE COUNTY SANITATION DISTRICT (OCSO) SHALL CONDUCT SOURCE TESTS TO DETERMINE EMISSIONS FROM THE ODOR CONTROL SYSTEM DESCRIBED IN THIS PERMIT, IN ACCORDANCE WITH THE AQMD APPROVED SOURCE TESTS PROTOCOL. A TEST PROTOCOL INCLUDING ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, WASTE MANAGEMENT & BULK TERMINALS PERMITTING TEAM, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS

SEE  
SAMPLE  
PERMIT

SEE  
SAMPLE  
PERMIT

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SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL DETERMINE THE EMISSIONS TO ATMOSPHERE FROM THE ODOR CONTROL SYSTEM FOR:

- A. TOTAL NON-METHANE HYDROCARBONS (TNMHC) AND TOXIC AIR CONTAMINANTS (TAC) PRESENT, (LBS/HR AND PPMV) – INLET AND EXHAUST.
- B. AMMONIA AND HYDROGEN SULFIDE (H<sub>2</sub>S), (LBS/HR AND PPMV) – INLET AND EXHAUST.
- C. CARBON DIOXIDE, OXYGEN AND NITROGEN
- D. MOISTURE CONTENT, TEMPERATURE AND EXHAUST FLOW RATE.

[RULE 204, 1401]

17. ADEQUATE NUMBER OF SAMPLING PORTS WITH ITS SAFE ACCESS, SHALL BE INSTALLED AND MAINTAINED FOR THE ODOR CONTROL UNIT AND EXHAUST STACKS IN ACCORDANCE WITH SCAQMD'S RULE 217.

[RULE 217]

18. A PRESSURE DIFFERENTIAL GAUGE INDICATING THE PRESSURE DROP (INCHES OF WATER COLUMN) ACROSS EACH CARBON BED SHALL BE INSTALLED AND MAINTAINED. THE PRESSURE DROP ACROSS EACH CARBON BED SHALL BE MAINTAINED AS PER MANUFACTURER'S SPECIFICATION AND RECOMMENDATION. PRESSURE DROP READING SHALL BE RECORDED AT LEAST ONCE A DAY.

[RULE 204]

19. AMMONIA (NH<sub>3</sub>) AND HYDROGEN SULFIDE (H<sub>2</sub>S) CONCENTRATIONS (PPMV), AT THE EXHAUST STACKS, SHALL BE MONITORED USING HANDHELD DEVICES (USING LOW RANGE CONCENTRATION DETECTION LIMIT) OR OTHER APPROVED METHODS AT LEAST ONCE A DAY WHEN EQUIPMENT IS IN OPERATION.

[RULE 3000 (a) (4)]

20. EMISSIONS FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING.

H <sub>2</sub> S	1 PPMV
NH <sub>3</sub>	5 PPMV

[RULE 402, 1303 (b)(2)-OFFSET]

21. ACTIVATED CARBON SHALL BE REPLACED WITH FRESH ONE AS PER MANUFACTURER'S RECOMMENDATION TO MAINTAIN DESIRED CONTROL EFFICIENCY, RECORDS FOR CARBON REPLACEMENT EVENTS, WITH DATE, TYPE AND QUANTITY SHALL BE MAINTAINED ON FILE.

[RULE 204]

22. SPENT CARBON REMOVED FROM THIS SYSTEM SHALL BE MAINTAINED OR STORED IN CLOSED CONTAINERS PRIOR TO REMOVAL FROM SITE.

[RULE 204]

23. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.

[RULE 204]

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### **BACKGROUND:**

On April 7, 2011, Orange County sanitation District (OCSD) submitted this application #520793 for construction of odor control system to treat exhaust from the proposed new sludge Thickening and sludge Dewatering facility (A/N 520794). The existing Dewatering Facility Scrubbers permit (PO F40906, A/N 386679) will be inactivated at a later date as this new odor control system is a replacement system.

This is a Title V facility. Most recent TV revision was issued August 27, 2010. OCSDD has also filed A/N 520794 to modify existing POTW PC under 453210 for construction of the new sludge Thickening and sludge Dewatering facility. Also, A/N 520795 is filed for Title V revision to include equipment under A/Ns 520793 and 520794.

### **PROCESS DESCRIPTION:**

Orange County Sanitation District (OCSD) has proposed to upgrade to secondary treatment for Fountain Valley wastewater Treatment facility (Plant No. 1). This includes replacing or rehabilitating the existing sludge dewatering facility. OCSD has proposed a new sludge thickening and dewatering facility which is referred to by OCSD as Job No. P1-101. The new facility will consist of;

- Three sludge blending tanks
- Three sludge thickening centrifuges
- Three thickened sludge wet wells
- Three dewatering centrifuges
- Two dewatered cake hoppers and other associated equipment.

This new facility will replace the existing belt press dewatering system (PC 453210) and upgrade or replace sludge conveyance and pumping station, cake storage and load-out system, chemical feed system, ventilation and other electrical and control systems. These equipment will be located in a building, called sludge thickening and dewatering facility, and all exhaust from the building (40, 000 cfm) that may contain VOCs, NH<sub>3</sub> and H<sub>2</sub>S will be treated by the new odor control system (this A/N 527093) that will replace existing odor control system permitted under F40906, A/N 386679.

**New odor control system** consists of "once-through", three (3) multi-stage chemical scrubbers (2 on duty, one stand-by) that will treat 40,000 cfm of foul air containing TOCs, NH<sub>3</sub> and H<sub>2</sub>S (20,000 cfm per scrubber, two units in service). Exhaust from the scrubbers will be further treated by two granular activated carbon adsorbers to remove residual TOCs and odors. Three stage operations are briefly explained here.

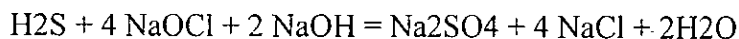
#### 1<sup>st</sup> stage: (H<sub>2</sub>SO<sub>4</sub> scrubbing solution)

H<sub>2</sub>SO<sub>4</sub> scrubbing solution will remove ammonia and amines. Under acidic conditions and with the presence of H<sub>2</sub>SO<sub>4</sub>, ammonia reduced to ammonium sulfate (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>. PH is maintained in the range of 3-7 with Oxidation Reduction Potential (ROP) of 700 mV to 800 mV. Chemical is added to the sump by automatic metering pump to maintain the desired PH and ORP. These parameters are continuously monitored and controlled.

#### 2<sup>nd</sup> and 3<sup>rd</sup> stage⊗ NaOH + NaOCl scrubbing solution)

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Under alkaline conditions and with the presence of excess NaOCl, H<sub>2</sub>S is oxidized to form sulfuric acid which is then neutralized by NaOH to form byproduct sodium sulfate. PH is maintained in the range of 9-11 with Oxidation Reduction Potential (ROP) of 600 mV to 650 mV. Chemicals are added to the sumps by automatic metering pumps to maintain the desired PH and ORP. These parameters are continuously monitored and controlled.



A polypropylene packing media is provided to allow for the necessary chemical reactions to occur in the system. The packing is designed to allow the maximum amount of surface area while minimizing the pressure drop. This configuration is critical to maximize the amount of liquid to gas contact in the system thereby maximizing the removal efficiency of the system and minimizing chemical consumption.

The slat byproducts, dissolved in the sump liquid overflows out of the sump and at the same rate fresh water is injected into the sump. A pressure differential gauge is provided to insure that the packing does not retain excess amount of the byproducts or "plug".

AFTER treatment by the LO/PRO chemical scrubber system, air containing trace amount of odorous compounds, are treated by a Granular Activated carbon (GAC) adsorber, a dual-bed adsorber. After entering the vessel, half of the air flows downward through a 3-ft deep lower bed of media and half of the air flows upwards through a 3-ft upper bed media. There are two adsorbers, in parallel, each treating 20,000 cfm air (total 40,000 cfm). Cleaned air is exhausted through the respective stacks.

Following are specifications for the packed-bed scrubber (single Unit) and GAC system,

Manufacturer: Siemens LP-6500 OR Duall PTMD OR Equivalent

Packing material type: Jeager, polypropylene

Packing Factor: 1.25

Packing Size: 3.5"

Height of Packing Material: 15.0 ft.

Number of Transfer Unit (NTU): 8

Height of Transfer Unit (HTU): 1.43 ft.

Pressure Drop: 0.45 in H<sub>2</sub>O/ft or 6.75 in. H<sub>2</sub>O across 15' packing material

Mist Eliminator: Internal, 1<sup>st</sup> and 3<sup>rd</sup> stage scrubbers

Overall pressure drop across the scrubber = 11 in. H<sub>2</sub>O

Exhaust blower = 20,000 cfm, 100 HP (Total 40,000 cfm, 2 units).

Recirculation pump, 1 = 15 HP.

Recirculation water flow rate = 400 gpm

Make up water rate = 12 gpm.

PH operating Range = 3-7 1<sup>st</sup> stage (H<sub>2</sub>SO<sub>4</sub>), 9.0- 11 2<sup>nd</sup> & 3<sup>rd</sup> stage (NaOH & NaOCl)

Oxidation Reduction Potential (ORP) = minimum 700 mV – 800 mV (1<sup>st</sup> stage)  
= minimum 600 mV – 650 mV (2<sup>nd</sup> & 3<sup>rd</sup> stage)

Exhaust Stack: 3' Dia. X 33'-9" H., no rain cap.

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Granular Activated Carbon (GAC) Adsorbers:

Manufacturer = Siemens or Duall or Equivalent

Number of vessels = 2, each one is a dual-bed

Media = Pelletized Anthracite

Media capacity = 12,670 lbs each adsorber, 3' x 2 = 6' depth for dual-bed.

Odor removal capacity = 0.30 g H<sub>2</sub>S/ cc carbon (= 0.60 lbs H<sub>2</sub>S/lb carbon)

Air flow per vessel = 20,000 cfm

Exhaust stack = 3' Dia. X 22'-6"H.(revised dimensions per E-mail, 10/4/12) above ground level, no rain cap

Exhaust temperature = Ambient.

Pressure drop across adsorber = 3" – 4" water column (Duall carbon system)\*  
= 4.5" water column (Siemens Water Technologies)\*

\*E-mail from Manufacturers, 8/04/2011.

**EMISSION CALCULATIONS:** (Revised)

Max. exhaust flow rate = total 40,000 scfm

Overall TOC control efficiency = 99% assumed (3 stage scrubbers + GAC)

Max. Inlet H<sub>2</sub>S con. = 20 ppmv (per application)

H<sub>2</sub>S odor control efficiency = 99%, for the packed -bed chemical scrubber

Max. Inlet NH<sub>3</sub> con. = 50 ppmv (per application)

NH<sub>3</sub> odor control efficiency = 99%, for the packed -bed chemical scrubber

Operating Schedule = 24 hrs/day, 7 days/wk, 52 wks/yr.

Assume TOC = VOC (as hourly emission for specific compound is in order of E-03 to E-06, and exempt VOC compounds (MeCl<sub>2</sub> and Perc) are in the range of E-04 to E-05).



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Estimated TOC (VOC) emissions from the dewatering building for 40,000 cfm exhaust air are listed below (as provided by Black & Veatch. See E-mail from OCSD, 8/03/2011)

	<u>Lb/hr, controlled</u> (40,000 cfm)	<u>Lb/hr, controlled</u> (20,000 cfm/exhaust stack)
Benzene	1.41E-06	7.05E-07
Chloroform	202 E-04	1.01E-04
1,4 (p)-dichlorobenzene	2.75E-04	1.375E-04
Methylene chloride*	1.83E-05	9.15E-06
Perchloroethylene*	1.28E-04	6.40E-05
Styrene	7.12E-06	3.56E-06
Toluene	1.95E-03	9.75E-04
Trichloroethylene	5.69E-06	2.845E-06
Xylene	2.32E-03	1.16E-03
Total	4.907E-03	2.453E-03
*Exempt VOC		

Total TOC (VOC) controlled emission (40,000 cfm) = **0.0049 lb/hr (R<sub>2</sub>)** = 0.117 lbs/day

Uncontrolled emission @ 95% efficiency = 0.0049 / 0.05 = **0.10 lb/hr (R<sub>1</sub>)** = 2.4 lbs/day

No VOC condition or limit will be proposed since the VOC from this process is part of the total VOC from the entire facility.

### **H<sub>2</sub>S & NH<sub>3</sub> Emissions**

Based on maximum outlet H<sub>2</sub>S concentration in 40,000 cfm exhaust = 1ppmv (requested per application)

and maximum outlet NH<sub>3</sub> concentration in 40,000 cfm exhaust = 5 ppmv(requested per application)

Assumed control efficiency = 99%

H<sub>2</sub>S (R<sub>2</sub>) = (40000 scfm) (1 E-06) (1/379) (34) (60) = **0.21 lbs/hr** = 5.0 lbs/day.

H<sub>2</sub>S (R<sub>1</sub>) = 0.21 lbs/hr / (1.0 - 0.99) = **21.0 lbs/hr** = 504 lbs/day

NH<sub>3</sub> (R<sub>2</sub>) = (40000 scfm) (5 E-06) (1/379) (17) (60) = **0.54 lbs/hr** = 12.9 lbs/day.

NH<sub>3</sub> (R<sub>1</sub>) = 5.38 lbs/hr / (1.0 - 0.99) = **54 lbs/hr** = 1296 lbs/day

No PM<sub>10</sub> emission is expected from this odor control equipment (No PM10 measurement source tests is warranted and not included in source tests condition).

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Note: Estimate for dissolved salts solids' entrainment from the multi-stage chemical scrubbers (assumed 20% moisture in exhaust),

$$\begin{aligned}
 &= 3.88\text{E-}06 \text{ grains/cf exhaust (See spreadsheet calculations)} \\
 &= 3.88\text{E-}06 \text{ grains/cf} \times (40000 \text{ cfm} \times 0.80 \times 60) / 7,000 \text{ grains/lb} \\
 &= 0.001\text{lbs/hr} = \underline{0.024 \text{ lbs/day}}.
 \end{aligned}$$

No PM<sub>10</sub> monitoring condition proposed due to very low estimated emission.

#### Estimated Carbon Breakthrough – VOC

(Almost all of Ammonia and H<sub>2</sub>S are expected to be removed by multi-stage chemical scrubbers with 95% or better expected control efficiency and GAC adsorbers are used for polishing any residual odorous compounds present in downstream of scrubbers)

$$\begin{aligned}
 \text{VOC loading per adsorber} &= 0.1 \text{ lb/hr} / 2 = 0.05 \text{ lbVOC/hr, in } 20000 \text{ cfm air} \\
 &= 1.2 \text{ lb VOC/day (uncontrolled)}.
 \end{aligned}$$

$$\begin{aligned}
 \text{VOC adsorption capacity for GAC} &= 0.05 \text{ lb VOC/lb carbon} \times 12,670 \text{ lbs C} = 633 \text{ lbs VOC} \\
 \text{Breakthrough (single adsorber, 20,000 cfm),} \\
 &= 633 \text{ lbs VOC} / 1.2 \text{ lbs VOC loading /day} = 527 \text{ days} = 1.44 \text{ yrs.}
 \end{aligned}$$

#### AEIS/NSR:

VOC, ammonia and H<sub>2</sub>S emissions are assigned to basic equipment A/N 520794, Sewage Treatment > 5 mgd. Therefore, emissions data entry under this A/N 520793 entered as zero (VOC, ammonia & H<sub>2</sub>S).

#### ODOR CONTROL ANALYSIS:

H<sub>2</sub>S in exhaust is conditioned for ~~0.2~~<sup>1</sup> ppmv. This limit will comply with odor threshold limits under CSAAQS and OEHHA (see below).

Screen 3 analysis indicated 1-hr maximum ground level con.@ nearest residential receptor (185 meters)  
 = 22.66 mcg/m<sup>3</sup> @ 1 lb/hr emission rate.

H<sub>2</sub>S emission rate at 20,000 cfm = 0.21 lb/hr.

$$\begin{aligned}
 &0.21 \text{ lbs H}_2\text{S /hr} \times 22.66 \text{ mcg/m}^3 / 1 \text{ lb/hr} \times (0.02445 / 34) \\
 &= 0.0035 \text{ ppmv H}_2\text{S} \\
 &= 3.5 \text{ ppbv} < 30 \text{ ppbv H}_2\text{S limit under CSAAQS.} \\
 &\text{and } < 8 \text{ ppbv H}_2\text{S odor threshold under OEHHA.}
 \end{aligned}$$

California State Ambient Air Quality Standard (CSAAQS)

California Office of Environmental Health Hazard Assessment Office (OEHHA).

Note: Cumulative impact from emissions from two (2) stacks is expected to be below allowable odor thresholds.

Therefore, H<sub>2</sub>S con. limit in exhaust = 1.0 ppmv for permit condition is okay.

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NH<sub>3</sub> concentration in exhaust is conditioned to 5 ppmv since the concentration at the fenceline will be less than odor threshold limit for NH<sub>3</sub> (5 ppm).

$(20000) (10/10^6) (1/379) (17) (60) = 0.54 \text{ lbs/hr.}$

$(0.54)(22.66) (0.02445/17) = 0.017 \text{ ppm} < 5 \text{ ppm odor threshold.}$

### **RULES EVALUATION:**

- Rule 212:** This is not a significant project in terms of emissions.  
There are no schools within 1000' of emission source.  
Emissions are expected below daily emission threshold.  
MICR is expected to be below ten in a million with T-BACT.  
No public notice is required.  
Compliance is expected.
- Rule 219:** Sulfuric acid,  $\leq 99\%$  by wt., storage tank is exempt from permit per Rule 219 (m) (A).  
Sodium hydroxide storage tank is exempt from permit per Rule 219 (m) (C).  
Sodium hypochlorite solution storage tank is exempt from permit per Rule 219 (m) (19).
- Rule 401:** The equipment is not expected to emit visible emissions with proper operation and maintenance.
- Rule 402:** With proper operation, monitoring and maintenance of the equipment no odor complaints are anticipated. Permit condition for ammonia and H<sub>2</sub>S conc. In exhaust shall comply with odor threshold limits. Compliance is expected.
- Rule 404:** No PM emissions expected from the proposed odor control system.  
Note: PM<sub>10</sub> emission (dissolved salts entrainment) from chemical scrubbers with demister is estimated at  $3.88\text{E-}06$  grains/scf which is below  $0.0463$  grains/dscf allowed for 42380 cfm under Table 404(a). compliance is expected.
- Reg. 13:** CEQA – Proposed OCSD Project (No. P1-101), in accordance with US EPA's procedures for implementing National Environmental Policy Act (40CFR Part 6), EPA has determined that this project is eligible for categorical exemption under 40CFR §6.107 and is exempt from the substantive environmental review requirements of the National Environmental Policy Act (42 U.S.C. 4321 et seq). Copy of this exemption is included in folder.
- Ammonia, H<sub>2</sub>S and VOC emissions from this proposed project is part of the facility emissions. There is no increase in emissions from this project and BACT is not triggered. This project is only for control of odors.
- No Offset is required for VOC (0.117 lb/day).  
H<sub>2</sub>S and ammonia are not required any offset (ammonia is subject to BACT but not offset). Compliance is expected.

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**Rule 1401:** Pass Tier 1 screening with pollutant screening index (PSI) <1, each, for cancer/chronic ASI and acute ASI.

Tier 2 results: MICR =  $2.38\text{E}-08$  (Res.) < 10 in a million with T-BACT.

HIC and HIA are estimated to be < 1 for each applicable organ.  
Compliance is expected.

**Rule 1401.1:** Exempt. This is an existing facility.

**Reg. 30:** Most recent TV revision was issued August 27, 2010.  
OCSD has submitted A/N 520795 for Title V permit revision to include the proposed project, P1-101. Compliance is expected with completion of public notice and EPA 45-day review..

**RECOMMENDATION:**

A permit to construct is recommended subject to above listed conditions and, upon approval and issuance of the Title V permit revision.

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**PERMIT TO CONSTRUCT EVALUATION**

(Revsd per OCSD comments to Draft, 10-04-11 email)

**APPLICANT'S NAME:** ORANGE COUNTY SANITATION DISTRICT (OCSD)

**MAILING ADDRESS:** 10844 ELLIS AVENUE  
FOUNTAIN VALLEY, CA 92708  
ATTN.: TERRY AHN, REGULATORY SPECIALIST

**EQUIPMENT ADDRESS:** WASTEWATER TREATMENT PLANT NO. 1  
"SAME AS ABOVE"

**FACILITY ID NO.:** 017301

**EQUIPMENT DESCRIPTION:**

ALTERATION OF THE EXISTING SEWAGE TREATMENT PLANT (216 MGD), COVERED BY PERMIT TO CONSTRUCT APPLICATION NO.432448 453210 (AND EXISTING P/O F66565), CONSISTING OF:

1. HEADWORKS STATION NO. 1 WITH TWO GRIT CHAMBERS, 28'-0" L. X 20'-0" W. X 14'-0" D., TWO SPLITTER BOXES, 15'-0" L. X 4'-0" W. X 7'-6" D., TWO GRIT CLASSIFIERS, AND ASSOCIATED PUMPS AND BLOWER.
2. HEADWORKS STATION NO. 2 WITH FIVE GRIT CHAMBERS, 38'-0" L. X 20'-0" W. X 14'-0" D., THREE SPLITTER BOXES, 15'-0" L. X 8'-0" W. X 15'-0" D., FOUR BAR SCREENS WITH A RAKE ASSEMBLY, EIGHT GATE OPERATORS, FIVE SPLITTER BOX WEIR GATE OPERATORS, AND ASSOCIATED PUMPS, BLOWERS AND COMPRESSOR.
3. FIFTEEN PRIMARY BASINS CONSISTING OF TWO 188'-0" L. X 40'-0" W. X 9'-0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS, THREE 140'-0" DIA. X 9'-0" D. CIRCULAR BASINS WITH ALUMINUM GEODESIC DOME COVERS, TEN 10'-0" L. X 195'-0" W. X 10'-0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS AND ASSOCIATED PUMPS AND BLOWERS.
4. FOUR TRICKLING FILTERS, EACH 180' DIA. X 6' - 0" D., WITH TWO GATE OPERATORS AND ASSOCIATED PUMPS.
5. SECONDARY CLARIFIERS CONSISTING OF ONE 140' - 0" DIA. X 9' - 0" D. AND TWENTY-FOUR 150' - 0" L. X 40' - 0" W. X 10' - 0" D. WITH ASSOCIATED PUMPS.
6. ACTIVATED SLUDGE PLANT PRIMARY EFFLUENT PUMP STATION WITH ASSOCIATED PUMPS.
7. TEN AERATION BASINS, EACH 275'-0" L. X 45'-0" W. X 15'-0" D. WITH ASSOCIATED BLOWERS.
8. SIX SLUDGE THICKENERS, EACH 40' - 0" DIA. X 8' - 0" D., WITH ASSOCIATED SWEEP DRIVER AND CONVEYORS.

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9. TWELVE DIGESTER TANK CONSISTING OF FOUR 90' -0" DIA. X 30' - 0" D, EACH 208,780 CUBIC FEET CAPACITY, EIGHT 110' -0" DIA. X 30' - 0" D, EACH APPROXIMATELY 330,430 CUBIC FEET CAPACITY WITH ASSOCIATED PUMPS AND COMMUNUTERS. EACH DIGESTER EQUIPPED WITH TWO PASSIVE VENTILATION CARBON ADSORBERS (55 GALLONS OR LESS VOLUME).
10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'- 0" L. X 56'- 0" W. X 3' -2" D.
11. DIGESTER GAS STORAGE TANKS, 25,000 CUBIC FEET CAPACITY, 42' -0" DIA. X 33' - 6" H. WITH THREE COMPRESSORS.
12. SLUDGE PROCESSING STATION WITH TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES, TRANSFER PUMP HOPPERS, AUGERS, STORAGE HOPPERS AND A TRUCK LOAD-OUT HOPPER.
- 13.\* SIXTEEN PRIMARY BASINS, 195'- 0" L. X 40'- 0" W. X 10' -0" D., EACH WITH CONCRETE COVERS AND 6 MGD AVERAGE CAPACITY AND ASSOCIATED PUMPS AND BLOWERS.
- 14.\* FOUR EXISTING TRICKLING FILTERS (ITEM NO. 4 ABOVE) REPLACED WITH TWO NEW TRICKLING FILTERS, EACH 166' DIA. X 20' - 0" MEDIA DEPTH, AND ASSOCIATED PUMPS. EACH NEW TRICKLING FILTER WITH TWO EXHAUST STACKS, EACH STACK 40' HIGH, AND WITH A TOTAL AIR FLOW RATE OF 25,000 CFM PER TRICKLING FILTER.
- 15.\* ONE EXISTING SECONDARY CLARIFIER (ITEM NO. 5 ABOVE) REPLACED WITH TWO NEW SECONDARY CLARIFIERS CONSISTING OF 175' - 0" DIA. X 15' - 0" D. WITH ASSOCIATED PUMPS.

\* Construction for the above items 13, 14, and 15 has been completed (under A/N 407071).

**BY THE ADDITION OF:** (OCSO JOB NO. P1-82 ACTIVATED SLUDGE PLANT REHABILITATION) UNDER A/N 432418.

16. TWO NEW SECONDARY CLARIFIERS, EACH 150'- 0" L. X 40'- 0" W. X 10' - 0" D.

**BY THE REMOVAL OF:**

10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'- 0" L. X 56'- 0" W. X 3' -2" D.

**AND BY THE ADDITION OF:**

17. NEW SECONDARY ACTIVATED SLUDGE FACILITY 2 (OCSO JOB NO. P1-102), AND NEW SLUDGE DEWATERING BEDS (OCSO JOB NO. P1-106) UNDER A/N 453210,
  - I. SIX AERATION BASINS (NOS. 11 THROUGH 16), COVERED, EACH 227' - 2" L. X 45' - 0" W. X 26' - 0" D., WITH ASSOCIATED AERATION BLOWERS, DIFFUSERS, MIXERS, AND PUMPS, AND VENTING THROUGH SIX STACKS, EACH 7' - 11" H., AND 10,000 SCFM.
  - II. SIX SECONDARY CLARIFIERS (NOS. 27, 29, 31, 32, 33, AND 34), UNCOVERED, EACH 155' DIA. X 16' SIDE WATER D., WITH ASSOCIATED RETURN ACTIVATED

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SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SECONDARY SCUM PUMPS.

- III. SODIUM HYPOCHLORITE (NaOCl) SOLUTION SYSTEM ADDITION (TO THE EXISTING BLEACH SYSTEM) FOR CHLORINATION OF THE TREATED EFFLUENT, RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SURFACE WASTE.

18. SLUDGE MANAGEMENT SYSTEM CONSISTING OF:

- I. TRUCK WASH STATION
- II. SAWDUST STORAGE
- III. TWO (2) DEWATERING BEDS FOR PLANT CLEANING OPERATIONS, EACH 110' - 0" L. X 56' - 0" W., AND WITH APPROXIMATELY 580 CUBIC YARDS CAPACITY.
- IV. ONE DEWATERING BED FOR PLANT CLEANING OPERATIONS, 100' - 0" L. X 24' - 0" W., WITH APPROXIMATELY 44 CUBIC YARDS CAPACITY.

\*\*\*

**BY THE REPLACEMENT/UPGRADE OF:** (OCSD JOB NO. P1-101- NEW SLUDGE THICKENING AND DEWATERING FACILITY, NEW A/N 520794),

- 19. REPLACE TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES (LISTED UNDER ITEM NO. 12)
- 20. UPGRADE, REPLACE OR MODIFY;
  - I. SLUDGE CONVEYANCE AND PUMPING SYSTEM
  - II. BIOSOLIDS STORAGE AND LOAD-OUT SYSTEM
  - III. CHEMICAL FEED SYSTEM
  - IV. VENTILATION SYSTEM AND VARIOUS OTHER ELECTRICAL AND CONTROL SYSTEMS.
  - V. MODIFY EXISTING TRUCKLOADING FACILITY TO IMPROVE ODOR CONTROL AND TO ALLOW STORAGE AND CONVEYANCE OF A DRIER DEWATERED CAKE/BIOSOLIDS.

**AND BY THE ADDITION OF:** (OCSD JOB NO. P1-101- NEW SLUDGE THICKENING AND DEWATERING FACILITY, NEW A/N 520794),

- 21. THREE (3) SLUDGE BLENDING TANKS  
POLYMER SYSTEM CONSISTING OF POLYMER STORAGE, MIXING AND AGING TANKS.  
THREE (3) SLUDGE THICKENING CENTRIFUGES  
THREE (3) THICKENED SLUDGE WETWELLS  
THREE (3) DEWATERING CENTRIFUGES  
DEWATERED CAKE CONVEYANCE SYSTEM CONSISTING OF INCLINED SCREW CONVEYORS, HORIZONTAL/CROSS CONVEYERS, HORIZONTAL COLLECTOR CONVEYORS, CAKE HOPPERS AND TRUCK LOAD OUT HOPPER.

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**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL MAKE A WRITTEN REQUEST FOR AND OBTAIN AN EXTENSION OF TIME TO CONSTRUCT THIS EQUIPMENT ON AN ANNUAL BASIS UNTIL SUCH TIME CONSTRUCTION IS COMPLETED AND THE EQUIPMENT IS PUT INTO OPERATION. AT LEAST 30 DAYS PRIOR TO THE EXPIRATION DATE OF THE PERMIT TO CONSTRUCT, OCSD SHALL PROVIDE IN THE WRITTEN REQUEST, VERIFIABLE DATA TO AQMD IN ORDER TO SHOW COMPLIANCE WITH THE CONSTRUCTION SCHEDULE AS PROVIDED IN THE APPLICATION UNDER WHICH THIS PERMIT TO CONSTRUCT IS GRANTED. IF THERE ARE CHANGES TO THE INCREMENTS OF PROGRESS AND/OR CONSTRUCTION SCHEDULE, THEY WILL NOT BECOME EFFECTIVE UNTIL OCSD RECEIVES WRITTEN CONFIRMATION OF SUCH CHANGES FROM AQMD.  
[RULE 204]
5. THE HEADWORKS FACILITIES, PRIMARY TREATMENT BASINS, AND NEW SLUDGE THICKENING AND DEWATERING AND SOLIDS PROCESSING AND HANDLING FACILITY (JOB P1-101) SHALL NOT BE OPERATED UNLESS THEY ARE FULLY ENCLOSED AND THEIR EXHAUST AIR VENTED TO AIR POLLUTION CONTROL SYSTEMS, WHICH ARE IN FULL OPERATION AND HAVE VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD. IN THE EVENT AIR POLLUTION CONTROL SYSTEM(S) ARE SHUTDOWN FOR CONSTRUCTION OR MAINTENANCE WORK, THE H<sub>2</sub>S EMISSIONS SHALL NOT EXCEED THE CONCENTRATION LIMITS AS SPECIFIED IN THEIR RESPECTIVE AIR POLLUTION CONTROL EQUIPMENT PERMIT.  
[RULE 402]
6. THE DAILY TOTAL INFLUENT FLOW, IN MILLION GALLONS PER DAY (MGD), TO THE HEADWORKS, PRIMARY TREATMENT PROCESS, AND SECONDARY TREATMENT PROCESS SHALL BE RECORDED.  
[RULE 204]
7. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE PRIMARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 216 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]



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8. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE SECONDARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 182 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]
  
9. THE AVERAGE DAILY PRIMARY EFFLUENT FLOW RATE, TREATED BY THE NEW ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102 CONSISTING OF SIX AERATION BASINS AND SIX SECONDARY CLARIFIERS), SHALL NOT EXCEED 60 MILLION GALLONS PER DAY (MGD) , AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 204]
  
10. WITHIN 60 DAYS AFTER ACHIEVING THE MAXIMUM INFLUENT FLOW RATE FOR THE ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102), BUT NOT LATER THAN 180 DAYS AFTER INITIAL START-UP, ORANGE COUNTY SANITATION DISTRICT (OCSO) SHALL CONDUCT SOURCE TESTS TO DETERMINE EMISSIONS FROM AT LEAST TWO OF THE SIX NEW AERATION BASINS' EXHAUST STACKS, AND AT LEAST TWO OF THE SIX NEW SECONDARY CLARIFIERS' SURFACE EMISSIONS, IN ACCORDANCE WITH THE AQMD OR OTHER APPROVED TEST PROCEDURES. A TEST PROTOCOL INCLUDING ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, REFINERY AND WASTE MANAGEMENT TEAM, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL DETERMINE THE EMISSIONS TO ATMOSPHERE FROM TWO OF THE AERATION BASINS AND TWO OF THE SECONDARY CLARIFIERS FOR:
  - A. TOTAL NON-METHANE HYDROCARBONS (TNMHC) AND TOXIC AIR CONTAMINANTS (TAC) PRESENT, (LBS/HR AND PPMV).
  - B. AMMONIA AND HYDROGEN SULFIDE (H<sub>2</sub>S), (LBS/HR AND PPMV).
  - C. CARBON DIOXIDE, OXYGEN AND NITROGEN
  - D. MOISTURE CONTENT, TEMPERATURE AND EXHAUST FLOW RATE.
  
11. ADEQUATE NUMBER OF SAMPLING PORTS WITH ITS SAFE ACCESS, SHALL BE INSTALLED AND MAINTAINED IN THE AERATION BASINS' EXHAUST STACK (JOB NO. P1-102) IN ACCORDANCE WITH SCAQMD'S RULE 217.  
[RULE 217]
  
12. ORANGE COUNTY SANITATION DISTRICT (OCSO) SHALL CALCULATE THE MAXIMUM INDIVIDUAL CANCER RISK (MICR), ACUTE HAZARD INDEX (HIA) AND CHRONIC HAZARD INDEX (HIC), BASED ON THE SOURCE TESTS RESULTS, USING AQMD PUBLISHED "RISK ASSESSMENT PROCEDURES FOR RULES 1401 AND 212" (VERSION 7.0, JULY 1, 2005), TO DETERMINE THE COMPLIANCE WITH RULE 1401. RESULTS SHALL BE SUBMITTED TO AQMD.  
[RULE 1401]

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13. IF SOURCE TESTS RESULTS INDICATE THAT THE TOTAL VOLATILE ORGANIC COMPOUNDS (VOC) EMISSIONS FROM THE AERATION BASINS EXCEED 13 LBS PER DAY OR AS DETERMINED BY AQMD, THEN OCSD SHALL CONDUCT IN DETAIL THE TECHNOLOGICAL FEASIBLE STUDY AND COST-EFFECTIVENESS ANALYSIS FOR A SUITABLE AIR POLLUTION CONTROL EQUIPMENT TO DETERMINE LOWEST ACHIEVABLE EMISSION RATE (LAER) FROM SUCH PROCESS.  
[RULE 1303 (a) (1) – BACT]
14. THE HYDROGEN SULFIDE (H<sub>2</sub>S) CONCENTRATION (PPMV) IN THE EXHAUST STACKS OF EACH TRICKLING FILTER SHALL BE MEASURED AND RECORDED ON A DAILY BASIS.  
[RULE 402]
15. RAW DIGESTER GAS PRODUCED AT THIS FACILITY SHALL NOT BE RELEASED INTO THE ATMOSPHERE. ALL COLLECTED DIGESTER GAS SHALL BE EITHER COMBUSTED IN DIGESTER GAS FLARES, INTERNAL COMBUSTION ENGINES, OR BOILERS WITH VALID AQMD PERMIT, OR SHALL BE TREATED THROUGH A PERMITTED AIR POLLUTION CONTROL DEVICE(S).  
[RULE 402]
16. THE SAWDUST USED IN THE SLUDGE MANAGEMENT SYSTEM SHALL BE STORED AND KEPT SUFFICIENTLY MOIST TO PREVENT ANY AIR BORNE PARTICULATE MATTER EMISSIONS.  
[RULE 402]
17. OCSD SHALL KEEP THE FOLLOWING DAILY RECORDS WITH REGARDS TO THE SLUDGE MANAGEMENT SYSTEM,
  - I. THE AMOUNT OF SLUDGE DEWATERED IN EACH DRYING BED.
  - II. NUMBER OF TRUCKS WASHED.
  - III. NUMBER OF LEAKY OR OVERFILLED TRUCKS.
 [RULE 204]
18. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.  
[RULE 204]

### **BACKGROUND:**

On April 7, 2011, Orange County sanitation District (OCSD) submitted this application #520794 for alteration/modification of the existing Sewage Treatment Plant (PC 453210).

The proposed modifications include;

Replacement of grinders and dewatering belt filter presses

Upgrade, replace or modify chemical feed system, sludge pumping and conveyance system, solids processing, handling, storage and load-out system, ventilation system and other electrical and control systems and,

Installations of;

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Sludge blending tanks, polymer storage, mixing and aging tanks, sludge thickening centrifuges, thickened sludge wetwells, dewatering centrifuges, dewatered cake conveyance (screw) system and truck load out hopper.

The proposed modifications is termed as "New sludge thickening and dewatering facility", OCSJ Job No. P1-101. All equipment are located in a building and collected foul air, 40,000 cfm, venting to the proposed new odor control system for which a new A/N 520793 is submitted. [The existing Dewatering Facility Scrubbers permit (PO F40906, A/N 386679) will be inactivated at a later date as this new odor control system is a replacement system.]

Project schedule consists of completion of final design, bid advertisement, notice to proceed, begin construction (April 2012) and with project completion target date of March 2015.

Also, A/N 520795 is filed for Title V revision to include equipment under A/Ns 520793 and 520794.

This is a Title V facility. Most recent TV revision was issued August 27, 2010.

#### **PROCESS DESCRIPTION:**

The new Sludge Thickening and Dewatering Facility (OCSJ Job No. P1-101) will have treatment capacity of 155 mgd and will include equipment described under Background and as listed under equipment description item Nos. 19, 20 and 21.

Total of 40,000 cfm of foul air (design basis) from the building will be vented to the new odor control system (A/N 520793). This consists of 17,000 cfm from the new process and 15,000 cfm from the existing processes - solids handling, storage and load out system, solids handling (total 32,000 cfm).

Proposed New Process	Air flow, cfm- Design
3-Dewatering Centrifuges	5525
4-Thickening Centrifuges	6000
3-Blend Tanks	3000
4-Thickened Wetwells	1000
Centrate Wells/Cake Hopper	1475

#### **EMISSION CALCULATIONS:** (from odor control system evaluation, A/N 520793)

Max. exhaust flow rate = total 40,000 scfm

Overall TOC control efficiency = 99% assumed (3 stage scrubbers + GAC)

Max. Inlet H<sub>2</sub>S con. = 20 ppmv (per application)

H<sub>2</sub>S odor control efficiency = 99%, for the packed -bed chemical scrubber

Max. Inlet NH<sub>3</sub> con. = 50 ppmv (per application)

NH<sub>3</sub> odor control efficiency = 99%, for the packed -bed chemical scrubber

Operating Schedule = 24 hrs/day, 7 days/wk, 52 wks/yr.

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Assume TOC = VOC (as hourly emission for specific compound is in order of E-03 to E-06, and exempt VOC compounds (MeCl<sub>2</sub> and Perc) are in the range of E-04 to E-05).

Estimated TOC (VOC) emissions from the dewatering building for 40,000 cfm exhaust air are listed below (as provided by Black & Veatch. See E-mail from OCSD, 8/03/2011)

	<u>Lb/hr, controlled</u> (40,000 cfm)	<u>Lb/hr, controlled</u> (20,000 cfm/exhaust stack)
Benzene	1.41E-06	7.05E-07
Chloroform	202 E-04	1.01E-04
1,4 (p)-dichlorobenzene	2.75E-04	1.375E-04
Methylene chloride*	1.83E-05	9.15E-06
Perchloroethylene*	1.28E-04	6.40E-05
Styrene	7.12E-06	3.56E-06
Toluene	1.95E-03	9.75E-04
Trichloroethylene	5.69E-06	2.845E-06
Xylene	2.32E-03	1.16E-03
Total	4.907E-03	2.453E-03
*Exempt VOC		

Total TOC (VOC) controlled emission (40,000 cfm) = 0.0049 lb/hr (R<sub>2</sub>) = 0.117 lbs/day

Uncontrolled emission @ 95% efficiency = 0.0049 / 0.05 = 0.10 lb/hr (R<sub>1</sub>) = 2.4 lbs/day

No VOC monitoring condition proposed due to very low estimated emission.

#### H<sub>2</sub>S & NH<sub>3</sub> Emissions

Based on maximum inlet H<sub>2</sub>S concentration in 40,000 cfm exhaust = 20 ppmv (Given per application)  
and maximum inlet NH<sub>3</sub> concentration in 40,000 cfm exhaust = 50 ppmv (Given per application)  
Assumed control efficiency = 99%

**H<sub>2</sub>S (R<sub>1</sub>) = (40000 scfm) (20 E-06) (1/379) (34) (60) = 4.30 lbs/hr = 103.2 lbs/day.**

**H<sub>2</sub>S (R<sub>2</sub>) = 4.30 lbs/hr (1.0 - 0.99) = 0.0431 lbs/hr = 1.03 lbs/day**

**NH<sub>3</sub> (R<sub>1</sub>) = (40000 scfm) (50 E-06) (1/379) (17) (60) = 5.38 lbs/hr = 129.1 lbs/day.**

**NH<sub>3</sub> (R<sub>2</sub>) = 5.38 lbs/hr (1.0 - 0.99) = 0.0538 lbs/hr = 1.30 lbs/day**

No PM<sub>10</sub> emission is expected from this odor control equipment.

Note: Estimate for dissolved salts solids' entrainment from the multi-stage chemical scrubbers (assumed 20% moisture in exhaust),

= 3.88E-06 grains/cf exhaust (See spreadsheet calculations)

= 3.88E-06 grains/cf x (40000 cfm x 0.80 x 60) / 7,000 grains/lb

= 0.0011 lbs/hr = 0.024 lbs/day.

No PM<sub>10</sub> monitoring condition proposed due to very low estimated emission.

#### Estimated Carbon Breakthrough – VOC

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(Almost all of Ammonia and H<sub>2</sub>S are expected to be removed by multi-stage chemical scrubbers with 95% or better expected control efficiency and GAC adsorbers are used for polishing any residual odorous compounds present in downstream of scrubbers)

VOC loading per adsorber = 0.1 lb/hr /2 = 0.05 lbVOC/hr in 20, 000 cfm air  
= 1.2 lb VOC/day (uncontrolled).

VOC adsorption capacity for GAC = 0.05 lb VOC/lb carbon x 12,670 lbs C = 633 lbs VOC  
Breakthrough (single adsorber, 20,000 cfm),  
= 633 lbs VOC/ 1.2 lbs VOC loading /day = 527 days = 1.44 yrs.

**AEIS/NSR:**

VOC, ammonia and H<sub>2</sub>S emissions are assigned to Sewage Treatment Plant, basic equipment A/N 520794, Sewage Treatment > 5 mgd. Therefore, emissions data entry under odor control equipment, A/N 520793 entered as zero (VOC, ammonia & H<sub>2</sub>S).

**A/N 520794, Modifications to Sewage Treatment Plant**

Emissions due to modifications, Job No. P1-101,

Pollutant	Uncontrolled (R1) lbs/hr	Controlled (R2) lbs/hr
VOC (TOC)	0.10	0.0049
H <sub>2</sub> S	4.30	0.043
NH <sub>3</sub>	5.38	0.054

**TOTAL EMISSIONS:** A/N 520794

Pollutant	Existing PC- 453210 lbs/hr		From Modifications (P1-101) lbs/hr		Total lbs/hr	
	R1	R2	R1	R2	R1	R2
VOC (TOC)	2.83	2.83	0.10	0.0049	<b>2.93</b>	<b>2.83</b>
H <sub>2</sub> S	0.06	0.06	4.30	0.043	<b>4.36</b>	<b>0.10</b>
NH <sub>3</sub>	-	-	5.38	0.054	<b>5.38</b>	<b>0.05</b>

**RULES EVALUATION:**

**Rule 212:** This is not a significant project in terms of emissions.  
There are no schools within 1000' of emission source.  
Emissions are expected below daily emission threshold.  
MICR is estimated 2.38E-08 (Res.) < ten in a million with T-BACT.  
No public notice is required.  
Compliance is expected.

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**Rule 401:** The equipment is not expected to emit visible emissions with proper operation and maintenance.

**Rule 402:** With proper operation, monitoring and maintenance of the equipment no odor complaints are anticipated.

**Rule 404:** No PM emissions expected from the foul air treated by multi-stage chemical scrubbers followed by a GAC system.  
Note: PM10 emission (dissolved salts entrainment) from chemical scrubbers with internal mist eliminators is estimated at 3.88E-06 grains/scf (for total 40,000 cfm exhaust) which is below 0.0463 grains/dscf allowed for 42380 cfm under Table 404(a). compliance is expected.

**Reg. 13:** CEQA – Proposed OCSD Project (No. P1-101), in accordance with US EPA's procedures for implementing National Environmental Policy Act (40CFR Part 6), EPA has determined that this project is eligible for categorical exemption under 40CFR §6.107 and is exempt from the substantive environmental review requirements of the National Environmental Policy Act (42 U.S.C. 4321 et seq). Copy of this exemption is included in folder.

For VOC, ammonia and H2S emissions control using multi-stage chemical scrubbers followed by GAC, and overall control efficiency of 99%, compliance with BACT/LAER is expected.

No Offset is required for VOC (0.117 lb/day).

H2S and ammonia are not required any offset (ammonia is subject to BACT but not offset). Compliance is expected.

**Rule 1401:** Pass Tier 1 screening with pollutant screening index (PSI) <1, each for cancer/chronic ASI and acute ASI.  
Tier 2 results: MICR = 2.38E-08 (Res.) < 10 in a million with T-BACT.  
HIC and HIA are estimated to be < 1 for each applicable organ.  
Compliance is expected.

**Rule 1401.1:** Exempt. This is an existing facility.

**Reg. 30:** Most recent TV revision was issued August 27, 2010.  
OCSD has submitted A/N 520795 for Title V permit revision to include the proposed project, P1-101. Compliance can be expected with completion of public notice and EPA 45-day review.

### **RECOMMENDATION:**

A permit to construct is recommended subject to above listed conditions and, upon approval and issuance of the Title V permit revision.

8-18-2011

Permit Administration and Application Tracking System - [TitleV Application Tracking]

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Facility ID: 07201 ORANGE COUNTY SANITATION DISTRICT

Title V Group details

Application Number: 520795 Application Track: 5 DE MINIMUS SIGNIFICANT TITLE V PERMIT REVISIONS

Application Type: 56 Application Type Desc: De minimis Significant permit revision

Group Tracking details:

	Application Task	Mandatory?	Close Reasons	Close Date	Comments	Close User Id
1	001 - TITLE V APPLICATION RECEIVED COMPLETE	Mandatory	COMPLETED TASK	08/18/2011	TRACK CHANGE	amrd
2	001 - TITLE V APPLICATION RECEIVED COMPLETE	Mandatory	APPLICATION PROCESSING	08/18/2011	READY FOR REVIEW & EPA 45-DAY REVIEW	gaurangr
3	006 - AQMD PREPARES PROPOSED PERMIT FOR	Mandatory	COMPLETED TASK	08/18/2011	DRAFT READY FOR APPROVAL EPA 45-DAY REVIEW	gaurangr
	007 - 45 DAY REVIEW - SEND PROPOSED PERMIT	Mandatory		00/00/0000		

Ready.

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**TITLE V PERMIT REVISION EVALUATION**  
(SECTION D, REV 03 AND SECTION H, REV 03)

**APPLICANT'S NAME:** ORANGE COUNTY SANITATION DISTRICT (OCSD)

**MAILING ADDRESS:** 10844 ELLIS AVENUE  
FOUNTAIN VALLEY, CA 92708  
ATTN: TERRY AHN, REGULATORY SPECIALIST

**EQUIPMENT ADDRESS:** WASTEWATER TREATMENT PLANT NO. 1  
"SAME AS ABOVE"

**FACILITY ID NO.:** 017301

**Background:**

A/N 520795 for Title V revision was submitted 04/07/2011. This revision will include A/N 520793, for new construction of the odor control system, consisting of multi-stage chemical scrubbers followed by granular activated carbon (GAC) system, to treat 40,000 cfm of exhaust air from the new sludge thickening and dewatering building. Also, A/N 520794 is filed for modifications to the existing sewage treatment plant (PC453210) for installations of New Sludge Thickening and Dewatering Facility (155 MGD capacity), and all equipment to be located within a building.

Previously application 514193 was submitted for Title V permit revision on 09/08/2010. This revision was to include two (2) applications (512830 and 512831) for permit to operate existing acid storage tanks vented to the carbon drum (Under Rule 310- Amnesty for Unpermitted Equipment). Acid storage tanks' permits will be incorporated under this TV revision A/N 520795 under Section D.

Note: Evaluations for A/N 512830 and 512831 has been revised to accommodate OCSD's request for increased acid filling limit on a monthly basis (Condition No. 4) from 2000 gallons to 6000 gallons. This change has negligible impact on emissions.

Most recent Title V permit revisions were issued on May 5, 2010 (Section H, Rev #2) and August 27, 2010 (Section D, Rev #2).

**Evaluation:**

New construction and modifications applications described above (520793 and 520794) are considered a De-Minimis Significant Revision, as emission increase is below daily maximum threshold and would not result in new or additional requirements pursuant to NSPS (40 CFR Part 60) or NESHAP (40 CFR Part 61 or 63). Acid storage tanks (512830 and 512531) are also considered De-Minimis Significant revision.

Review of the actual toxic pollutants' emissions data for the year 2009 and 2010 indicated Formaldehyde emission of <10 TPY (19,126 lbs/yr for 2009 and 19,297 lbs/yr for 2010).

The proposed Title V revision consists of the following. Public notice is not required; however, it is subject to EPA 45-day review.



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PERMIT TO OPERATE: Section D, Rev #3

<u>Application No.</u>	<u>Description</u>
512830	Acid Storage Tank (HCl), 8,000 gallons, with a passive carbon adsorber
512831	Acid Storage Tank (HCl), 2,000 gallons, with a passive carbon adsorber

PERMIT TO CONSTRUCT: Section H, Rev #3

<u>Application No.</u>	<u>Description</u>
520793	Odor Control equipment, 40, 000 cfm capacity
520794	Modifications to sewage treatment plant > 5 MGD, anaerobic (PC 453210)

Permit evaluations for above applications are included in folder.

**RULES EVALUATION: TV Revision**

**REG XXX:** Title V Permits

Compliance with this regulation is expected.

**CONCLUSIONS/RECOMMENDATION:**

The facility is expected to be in compliance with all applicable AQMD's Rules and Regulations. A De-minimis significant permit revision is recommended upon completion of EPA 45-day review/commenting period.

## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

### **PERMIT TO CONSTRUCT**

**A/N 520794  
Pending Approval**

#### **Equipment Description:**

ALTERATION OF THE EXISTING SEWAGE TREATMENT PLANT (216 MGD), COVERED BY PERMIT TO CONSTRUCT APPLICATION NO. 453210 (AND EXISTING P/O F66565), CONSISTING OF:

1. HEADWORKS STATION NO. 1 WITH TWO GRIT CHAMBERS, 28'-0" L. X 20'-0" W. X 14'-0" D., TWO SPLITTER BOXES, 15'-0" L. X 4'-0" W. X 7'-6" D., TWO GRIT CLASSIFIERS, AND ASSOCIATED PUMPS AND BLOWER.
2. HEADWORKS STATION NO. 2 WITH FIVE GRIT CHAMBERS, 38'-0" L. X 20'-0" W. X 14'-0" D., THREE SPLITTER BOXES, 15'-0" L. X 8'-0" W. X 15'-0" D., FOUR BAR SCREENS WITH A RAKE ASSEMBLY, EIGHT GATE OPERATORS, FIVE SPLITTER BOX WEIR GATE OPERATORS, AND ASSOCIATED PUMPS, BLOWERS AND COMPRESSOR.
3. FIFTEEN PRIMARY BASINS CONSISTING OF TWO 188'-0" L. X 40'-0" W. X 9'-0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS, THREE 140'-0" DIA. X 9'-0" D. CIRCULAR BASINS WITH ALUMINUM GEODESIC DOME COVERS, TEN 10'-0" L. X 195'-0" W. X 10'-0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS AND ASSOCIATED PUMPS AND BLOWERS.
4. FOUR TRICKLING FILTERS, EACH 180' DIA. X 6'-0" D., WITH TWO GATE OPERATORS AND ASSOCIATED PUMPS.
5. SECONDARY CLARIFIERS CONSISTING OF ONE 140'-0" DIA. X 9'-0" D. AND TWENTY-FOUR 150'-0" L. X 40'-0" W. X 10'-0" D. WITH ASSOCIATED PUMPS.
6. ACTIVATED SLUDGE PLANT PRIMARY EFFLUENT PUMP STATION WITH ASSOCIATED PUMPS.
7. TEN AERATION BASINS, EACH 275'-0" L. X 45'-0" W. X 15'-0" D. WITH ASSOCIATED BLOWERS.
8. SIX SLUDGE THICKENERS, EACH 40'-0" DIA. X 8'-0" D., WITH ASSOCIATED SWEEP DRIVER AND CONVEYORS.
9. TWELVE DIGESTER TANK CONSISTING OF FOUR 90'-0" DIA. X 30'-0" D, EACH 208,780 CUBIC FEET CAPACITY, EIGHT 110'-0" DIA. X 30'-0" D, EACH APPROXIMATELY 330,430 CUBIC FEET CAPACITY WITH ASSOCIATED PUMPS AND COMMINUTERS.
10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'-0" L. X 56'-0" W. X 3'-2" D.
11. DIGESTER GAS STORAGE TANKS, 25,000 CUBIC FEET CAPACITY, 42'-0" DIA. X 33'-6" H. WITH THREE COMPRESSORS.

## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

12. SLUDGE PROCESSING STATION WITH TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES, TRANSFER PUMP HOPPERS, AUGERS, STORAGE HOPPERS AND A TRUCK LOAD-OUT HOPPER.
  - 13.\* SIXTEEN PRIMARY BASINS, 195'-0" L. X 40'-0" W. X 10'-0" D., EACH WITH CONCRETE COVERS AND 6 MGD AVERAGE CAPACITY AND ASSOCIATED PUMPS AND BLOWERS.
  - 14.\* FOUR EXISTING TRICKLING FILTERS (ITEM NO. 4 ABOVE) REPLACED WITH TWO NEW TRICKLING FILTERS, EACH 166' DIA. X 20' - 0" MEDIA DEPTH, AND ASSOCIATED PUMPS. EACH NEW TRICKLING FILTER WITH TWO EXHAUST STACKS, EACH STACK 40' HIGH, AND WITH A TOTAL AIR FLOW RATE OF 25,000 CFM PER TRICKLING FILTER.
  - 15.\* ONE EXISTING SECONDARY CLARIFIER (ITEM NO. 5 ABOVE) REPLACED WITH TWO NEW SECONDARY CLARIFIERS CONSISTING OF 175' - 0" DIA. X 15' - 0" D. WITH ASSOCIATED PUMPS.
- \* Construction for the above items 13, 14, and 15 has been completed (under A/N 407071).

**BY THE ADDITION OF:** (OCSJ JOB NO. P1-82 ACTIVATED SLUDGE PLANT REHABILITATION) UNDER A/N 432418.

16. TWO NEW SECONDARY CLARIFIERS, EACH 150'-0" L. X 40'-0" W. X 10' - 0" D.

**BY THE REMOVAL OF:**

10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'-0" L. X 56'-0" W. X 3' -2" D.

**AND BY THE ADDITION OF:**

17. NEW SECONDARY ACTIVATED SLUDGE FACILITY 2 (OCSJ JOB NO. P1-102), AND NEW SLUDGE DEWATERING BEDS (OCSJ JOB NO. P1-106) UNDER A/N 453210,
  - I. SIX AERATION BASINS (NOS. 11 THROUGH 16), COVERED, EACH 227' - 2" L. X 45' - 0" W. X 26' - 0" D., WITH ASSOCIATED AERATION BLOWERS, DIFFUSERS, MIXERS, AND PUMPS, AND VENTING THROUGH SIX STACKS, EACH 7'- 11" H., AND 10,000 SCFM.
  - II. SIX SECONDARY CLARIFIERS (NOS. 27, 29, 31, 32, 33, AND 34), UNCOVERED, EACH 155' DIA. X 16' SIDE WATER D., WITH ASSOCIATED RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SECONDARY SCUM PUMPS.
  - III. SODIUM HYPOCHLORITE (NaOCl) SOLUTION SYSTEM ADDITION (TO THE EXISTING BLEACH SYSTEM) FOR CHLORINATION OF THE TREATED EFFLUENT, RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SURFACE WASTE.

## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

18. SLUDGE MANAGEMENT SYSTEM CONSISTING OF:

- I. TRUCK WASH STATION
- II. SAWDUST STORAGE
- III. TWO (2) DEWATERING BEDS FOR PLANT CLEANING OPERATIONS, EACH 110' – 0" L. X 56' – 0" W., AND WITH APPROXIMATELY 580 CUBIC YARDS CAPACITY.
- IV. ONE DEWATERING BED FOR PLANT CLEANING OPERATIONS, 100' – 0" L. X 24' – 0" W., WITH APPROXIMATELY 44 CUBIC YARDS CAPACITY.

**BY THE REPLACEMENT/UPGRADE OF:** (OCSJ JOB NO. P1-101- NEW SLUDGE THICKENING AND DEWATERING FACILITY, NEW A/N 520794),

19. REPLACE TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES (LISTED UNDER ITEM NO. 12)

20. UPGRADE, REPLACE OR MODIFY;

- I. SLUDGE CONVEYANCE AND PUMPING SYSTEM
- II. BIOSOLIDS STORAGE AND LOAD-OUT SYSTEM
- III. CHEMICAL FEED SYSTEM
- IV. VENTILATION SYSTEM AND VARIOUS OTHER ELECTRICAL AND CONTROL SYSTEMS.
- V. MODIFY EXISTING TRUCKLOADING FACILITY TO IMPROVE ODOR CONTROL AND TO ALLOW STORAGE AND CONVEYANCE OF A DRIER DEWATERED CAKE/BIOSOLIDS.

**AND BY THE ADDITION OF:** (OCSJ JOB NO. P1-101- NEW SLUDGE THICKENING AND DEWATERING FACILITY, NEW A/N 520794),

21. THREE (3) SLUDGE BLENDING TANKS  
POLYMER SYSTEM CONSISTING OF POLYMER STORAGE, MIXING AND AGING TANKS.  
THREE (3) SLUDGE THICKENING CENTRIFUGES  
THREE (3) THICKENED SLUDGE WETWELLS  
THREE (3) DEWATERING CENTRIFUGES  
DEWATERED CAKE CONVEYANCE SYSTEM CONSISTING OF INCLINED SCREW CONVEYORS, HORIZONTAL/CROSS CONVEYERS, HORIZONTAL COLLECTOR CONVEYORS, CAKE STORAGE AND SOLIDS LOAD OUT CAKE SILOS (EXISTING), AND TRUCK LOAD OUT HOPPER.

**Conditions:**

- 1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
- 2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]

## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. ORANGE COUNTY SANITATION DISTRICT (OCS D) SHALL MAKE A WRITTEN REQUEST FOR AND OBTAIN AN EXTENSION OF TIME TO CONSTRUCT THIS EQUIPMENT ON AN ANNUAL BASIS UNTIL SUCH TIME CONSTRUCTION IS COMPLETED AND THE EQUIPMENT IS PUT INTO OPERATION. AT LEAST 30 DAYS PRIOR TO THE EXPIRATION DATE OF THE PERMIT TO CONSTRUCT, OCS D SHALL PROVIDE IN THE WRITTEN REQUEST, VERIFIABLE DATA TO AQMD IN ORDER TO SHOW COMPLIANCE WITH THE CONSTRUCTION SCHEDULE AS PROVIDED IN THE APPLICATION UNDER WHICH THIS PERMIT TO CONSTRUCT IS GRANTED. IF THERE ARE CHANGES TO THE INCREMENTS OF PROGRESS AND/OR CONSTRUCTION SCHEDULE, THEY WILL NOT BECOME EFFECTIVE UNTIL OCS D RECEIVES WRITTEN CONFIRMATION OF SUCH CHANGES FROM AQMD.  
[RULE 204]
5. THE HEADWORKS FACILITIES, PRIMARY TREATMENT BASINS, AND NEW SLUDGE THICKENING AND DEWATERING AND SOLIDS PROCESSING AND HANDLING FACILITY (JOB P1-101) SHALL NOT BE OPERATED UNLESS THEY ARE FULLY ENCLOSED AND THEIR EXHAUST AIR VENTED TO AIR POLLUTION CONTROL SYSTEMS, WHICH ARE IN FULL OPERATION AND HAVE VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD. IN THE EVENT AIR POLLUTION CONTROL SYSTEM(S) ARE SHUTDOWN FOR CONSTRUCTION OR MAINTENANCE WORK, THE H<sub>2</sub>S EMISSIONS SHALL NOT EXCEED THE CONCENTRATION LIMITS AS SPECIFIED IN THE SHUT DOWN OF AIR POLLUTION CONTROL EQUIPMENT PERMIT.  
[RULE 402]
6. THE DAILY TOTAL INFLUENT FLOW, IN MILLION GALLONS PER DAY (MGD), TO THE HEADWORKS, PRIMARY TREATMENT PROCESS, AND SECONDARY TREATMENT PROCESS SHALL BE RECORDED.  
[RULE 204]
7. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE PRIMARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 216 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]
8. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE SECONDARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 92 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]

## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

9. THE AVERAGE DAILY PRIMARY EFFLUENT FLOW RATE, TREATED BY THE NEW ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102 CONSISTING OF SIX AERATION BASINS AND SIX SECONDARY CLARIFIERS), SHALL NOT EXCEED 60 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 204]
10. WITHIN 60 DAYS AFTER ACHIEVING THE MAXIMUM INFLUENT FLOW RATE FOR THE ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102), BUT NOT LATER THAN 180 DAYS AFTER INITIAL START-UP, ORANGE COUNTY SANITATION DISTRICT (OCSO) SHALL CONDUCT SOURCE TESTS TO DETERMINE EMISSIONS FROM AT LEAST TWO OF THE SIX NEW AERATION BASINS' EXHAUST STACKS, AND AT LEAST TWO OF THE SIX NEW SECONDARY CLARIFIERS' SURFACE EMISSIONS, IN ACCORDANCE WITH THE AQMD OR OTHER APPROVED TEST PROCEDURES. A TEST PROTOCOL INCLUDING ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, REFINERY AND WASTE MANAGEMENT TEAM, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL DETERMINE THE EMISSIONS TO ATMOSPHERE FROM TWO OF THE AERATION BASINS AND TWO OF THE SECONDARY CLARIFIERS FOR:
  - A. TOTAL NON-METHANE HYDROCARBONS (TNMHC) AND TOXIC AIR CONTAMINANTS (TAC) PRESENT, (LBS/HR AND PPMV).
  - B. AMMONIA AND HYDROGEN SULFIDE (H<sub>2</sub>S), (LBS/HR AND PPMV).
  - C. CARBON DIOXIDE, OXYGEN AND NITROGEN
  - D. MOISTURE CONTENT, TEMPERATURE AND EXHAUST FLOW RATE.
11. ADEQUATE NUMBER OF SAMPLING PORTS WITH ITS SAFE ACCESS, SHALL BE INSTALLED AND MAINTAINED IN THE AERATION BASINS' EXHAUST STACK (JOB NO. P1-102) IN ACCORDANCE WITH SCAQMD'S RULE 217.  
[RULE 217]
12. ORANGE COUNTY SANITATION DISTRICT (OCSO) SHALL CALCULATE THE MAXIMUM INDIVIDUAL CANCER RISK (MICR), ACUTE HAZARD INDEX (HIA) AND CHRONIC HAZARD INDEX (HIC), BASED ON THE SOURCE TESTS RESULTS, USING AQMD PUBLISHED "RISK ASSESSMENT PROCEDURES FOR RULES 1401 AND 212" (VERSION 7.0, JULY 1, 2005), TO DETERMINE THE COMPLIANCE WITH RULE 1401. RESULTS SHALL BE SUBMITTED TO AQMD.  
[RULE 1401]
13. IF SOURCE TESTS RESULTS INDICATE THAT THE TOTAL VOLATILE ORGANIC COMPOUNDS (VOC) EMISSIONS FROM THE AERATION BASINS EXCEED 13 LBS PER DAY OR AS DETERMINED BY AQMD, THEN OCSO SHALL CONDUCT IN DETAIL THE TECHNOLOGICAL FEASIBLE STUDY AND COST-EFFECTIVENESS ANALYSIS FOR A SUITABLE AIR POLLUTION CONTROL EQUIPMENT TO DETERMINE LOWEST ACHIEVABLE EMISSION RATE (LAER) FROM SUCH PROCESS.  
[RULE 1303 (a) (1) – BACT]

## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

14. THE HYDROGEN SULFIDE (H<sub>2</sub>S) CONCENTRATION (PPMV) IN THE EXHAUST STACKS OF EACH TRICKLING FILTER SHALL BE MEASURED AND RECORDED ON A DAILY BASIS.  
[RULE 402]
15. RAW DIGESTER GAS PRODUCED AT THIS FACILITY SHALL NOT BE RELEASED INTO THE ATMOSPHERE. ALL COLLECTED DIGESTER GAS SHALL BE EITHER COMBUSTED IN DIGESTER GAS FLARES, INTERNAL COMBUSTION ENGINES, OR BOILERS WITH VALID AQMD PERMIT, OR SHALL BE TREATED THROUGH A PERMITTED AIR POLLUTION CONTROL DEVICE(S).  
[RULE 402]
16. THE SAWDUST USED IN THE SLUDGE MANAGEMENT SYSTEM SHALL BE STORED AND KEPT SUFFICIENTLY MOIST TO PREVENT ANY AIR BORNE PARTICULATE MATTER EMISSIONS.  
[RULE 402]
17. OCSD SHALL KEEP THE FOLLOWING DAILY RECORDS WITH REGARDS TO THE SLUDGE MANAGEMENT SYSTEM,
  - I. THE AMOUNT OF SLUDGE DEWATERED IN EACH DRYING BED.
  - II. NUMBER OF TRUCKS WASHED.
  - III. NUMBER OF LEAKY OR OVERFILLED TRUCKS.[RULE 204]
18. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.  
[RULE 204]

## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

### **PERMIT TO CONSTRUCT**

**A/N 520793  
Pending Approval**

#### **Equipment Description:**

ODOR CONTROL SCRUBBER SYSTEM (LO/PRO), FOR NEW SLUDGE THICKENING AND DEWATERING FACILITY (JOB NO. P1-101), CONSISTING OF:

1. FOUL AIR EXHAUST DUCT FROM NEW SLUDGE THICKENING AND DEWATERING BUILDING, TOTAL 40,000 CFM.
2. THREE (3) EXHAUST BLOWERS (ONE FOR STAND BY UNIT), EACH 15 H.P., 20,000 CFM.
3. THREE (3) CHEMICAL SCRUBBERS (ONE STANDBY UNIT), EACH 3-STAGE, SIEMENS MODEL LP-6500 OR DUALL MODEL PMTD OR EQUAL, VERTICAL, PACKED BED TYPE, EACH WITH JAEGER, APPROXIMATELY 15 FT. HIGH POLYPROPYLENE PACKING BED, EQUIPPED WITH PH AND OXIDATION REDUCTION POTENTIAL (ORP) PROBES AND CONTROLLERS, DIFFERENTIAL PRESSURE GAUGES, THREE (3) SUMPS, SCRUBBER SOLUTION RECIRCULATION PUMPS AND FLOW METERS, SPRAY NOZZLES, AUTOMATIC CHEMICAL FEED METERING PUMP AND MAKEUP WATER SYSTEM, AND ASSOCIATED SULFURIC ACID (97%), SODIUM HYDROXIDE (25% NaOH SOLUTION), AND SODIUM HYPOCHLORITE (12.5% NaOCl SOLUTION) STORAGE TANKS.
4. FIRST AND FINAL STAGE MIST ELIMINATORS, AND EXHAUST VENTING TO GARANU;AR ACTIVATED CARBON ADSORBERS.
5. TWO (2) DUAL-BED ADSORBERS, IN PARALLEL, EACH SIEMENS MODEL RJC-1300-D OR DUALL MODEL CA-132DB OR EQUIVALENT, EACH CONTAINING MINIMUM OF 12,670 LBS OF GRANULAR ACTIVATED CARBON, 20, 000 SCFM, AND EQUIPPED WITH DIFFERENTIAL PRESSURE GAUGE, SAMPLING PORTS, INSTRUMENTATION, CONTROLS AND OTHER ACCESSORIES.
6. TWO (2) EXHAUST STACKS, EACH 16 ' DIA. X MINIMUM 21.25' HIGH ABOVE GROUND, 20, 000 CFM, AND WITH NO RAIN CAP.

#### **Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]



## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THE EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.  
[RULE 205]
5. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSd) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY). DEVIATIONS FROM THE ABOVE DESCRIPTION AND PROPOSED DESIGN AFFECTING EQUIPMENT PERFORMANCE OR EMISSIONS SHALL BE APPROVED IN WRITING BY THE AQMD.  
[RULE 204]
6. THE EXHAUST BLOWERS ASSOCIATED WITH THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS FOUL-AIR FROM THE SLUDGE THICKENING AND DEWATERING BUILDING IS VENTED THROUGH THE ODOR CONTROL SYSTEM DESCRIBED IN THIS PERMIT. AT NO TIME, THE OPERATOR SHALL ALLOW THE ESCAPE OF FOUL-AIR INTO THE ATMOSPHERE.  
[RULE 401, 402]
7. AT ANY GIVEN TIME ONLY TWO (2) MUTI-STAGE CHEMICAL SCRUBBERS SHALL BE IN OPERATION.  
[RULE 204]
8. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH OF THE MULTI-STAGE CHEMICAL SCRUBBER TO INDICATE THE TOTAL AIR FLOW RATE IN CUBIC FEET PER MINUTE (CFM). THE MEASURED AIR FLOW RATE FOR EACH SCRUBBER SHALL NOT EXCEED 20,000 CFM. IN CASE A PRESSURE SENSOR DEVICE(S) IS USED IN PLACE OF THE FLOW METER(S), A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDENT FLOW RATE(S), IN CFM, TO THE PRESSURE READING.  
[RULE 204]
9. A PRESSURE DIFFERENTIAL GAUGE, INDICATING THE PRESSURE DROP ACROSS EACH SCRUBBER PACKING BED SHALL BE INSTALLED AND MAINTAINED. THE PRESSURE DROP ACROSS EACH PACKING BED SHALL BE MAINTAINED BELOW 6.75 INCHES OF WATER COLUMN, WHEN THE SCRUBBER IS IN OPERATION.  
[RULE 1303 (a)(1)- BACT]

## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

10. A PH METER SHALL BE INSTALLED AND MAINTAINED, FOR EACH SCRUBBER STAGE (SUMP SOLUTION), TO INDICATE PH OF THE SCRUBBING SOLUTION.  
  
THE PH FOR THE FIRST STAGE SCRUBBER SOLUTION ( $H_2SO_4$ ) SHALL BE MAINTAINED BETWEEN 3.0 – 7.0.  
  
THE PH FOR THE 2<sup>ND</sup> AND 3<sup>RD</sup> STAGE SCRUBBER SOLUTION (NaOH AND NaOCl) SHALL BE MAINTAINED BETWEEN 9.0 – 11.0.  
[RULE 1303 (a)(1)- BACT]
11. OXIDATION REDUCTION POTENTIAL (ORP) METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE ORP READING (mv) FOR THE SCRUBBING SOLUTION.  
THE ORP VALUE FOR THE 1<sup>ST</sup> STAGE SCRUBBING SOLUTION SHALL BE MAINTAINED AT 700 mv - 800 mv.  
THE ORP VALUE FOR THE 2<sup>ND</sup> AND 3<sup>RD</sup> STAGE SCRUBBING SOLUTION SHALL BE MAINTAINED AT 600 mv - 650 mv.  
[RULE 1303 (a)(1)- BACT]
12. A FLOW METER SHALL BE INSTALLED TO INDICATE SCRUBBING SOLUTION FLOW RATE FOR EACH SCRUBBER. THE SCRUBBING SOLUTION FLOW RATE (GPM) FOR EACH STAGE SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATION.  
[RULE 204, 1303 (b)(2)-OFFSET]
13. WHEN IN OPERATION, FOR EACH SCRUBBER THE FOUL-AIR FLOW RATE, SCRUBBING SOLUTION FLOW RATE, PH, ORP AND PRESSURE DIFFERENTIAL ACROSS THE SCRUBBER PACKING BED SHALL BE MONITORED AND RECORDED AT LEAST ONCE A DAY.  
[RULE 3004 (a) (1)]
14. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH CARBON ADSORBER TO INDICATE THE EXHAUST AIR (FROM CHEMICAL SCRUBBER UNITS) TREATED, IN CUBIC FEET PER MINUTE (SCFM). IN CASE A PRESSURE SENSOR DEVICE IS USED IN PLACE OF THE FLOW METER, A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDING FLOW RATE, IN CFM, TO THE PRESSURE READING.  
[RULE 3004 (a) (1)]
15. MAXIMUM EXHAUST AIR FLOW TO BE TREATED BY EACH OF THE CARBON ADSORBER SHALL NOT EXCEED 20,000 SCFM.  
[RULE 204, 1303 (b)(2)-OFFSET]
16. WITHIN 60 DAYS AFTER START UP OF THE NEW SLUDGE THICKENING AND DEWATERING EQUIPMENT (OCS D JOB NO. P1-101), OPERATING AT A STEADY STATE, BUT NOT LATER THAN 180 DAYS AFTER INITIAL START-UP, ORANGE COUNTY SANITATION DISTRICT (OCS D) SHALL CONDUCT SOURCE TESTS TO DETERMINE EMISSIONS FROM THE ODOR CONTROL SYSTEM DESCRIBED IN THIS PERMIT, IN ACCORDANCE WITH THE AQMD APPROVED SOURCE TESTS PROTOCOL. A TEST PROTOCOL INCLUDING ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, WASTE MANAGEMENT & BULK TERMINALS PERMITTING TEAM, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN

## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

OBSERVER MAY BE PRESENT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL DETERMINE THE EMISSIONS TO ATMOSPHERE FROM THE ODOR CONTROL SYSTEM FOR:

- A. TOTAL NON-METHANE HYDROCARBONS (TNMHC) AND TOXIC AIR CONTAMINANTS (TAC) PRESENT, (LBS/HR AND PPMV) – INLET AND EXHAUST.
  - B. AMMONIA AND HYDROGEN SULFIDE (H<sub>2</sub>S), (LBS/HR AND PPMV) – INLET AND EXHAUST.
  - C. CARBON DIOXIDE, OXYGEN AND NITROGEN
  - D. MOISTURE CONTENT, TEMPERATURE AND EXHAUST FLOW RATE.
- [RULE 204, 1303 (b)(2)-OFFSET, 1401]

17. ADEQUATE NUMBER OF SAMPLING PORTS WITH ITS SAFE ACCESS, SHALL BE INSTALLED AND MAINTAINED FOR THE ODOR CONTROL UNIT AND EXHAUST STACKS IN ACCORDANCE WITH SCAQMD'S RULE 217.  
[RULE 217]

18. A PRESSURE DIFFERENTIAL GAUGE INDICATING THE PRESSURE DROP (INCHES OF WATER COLUMN) ACROSS EACH CARBON BED SHALL BE INSTALLED AND MAINTAINED. THE PRESSURE DROP ACROSS EACH CARBON BED SHALL BE MAINTAINED AS PER MANUFACTURER'S SPECIFICATION AND RECOMMENDATION. PRESSURE DROP READING SHALL BE RECORDED AT LEAST ONCE A DAY.  
[RULE 1303 (a)(1)-BACT]

19. AMMONIA (NH<sub>3</sub>) AND HYDROGEN SULFIDE (H<sub>2</sub>S) CONCENTRATIONS (PPMV), AT THE ADSORBERS' EXHAUST STACKS, SHALL BE MONITORED USING HANDHELD DEVICES (USING LOW RANGE CONCENTRATION DETECTION LIMIT) OR OTHER APPROVED METHODS AT LEAST ONCE A DAY WHEN EQUIPMENT IS IN OPERATION.  
[RULE 3000 (a) (4)]

20. EMISSIONS FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING.

H <sub>2</sub> S	0.20 PPMV
NH <sub>3</sub>	0.50 PPMV

[RULE 402, 1303 (b)(2)-OFFSET]

21. ACTIVATED CARBON SHALL BE REPLACED WITH FRESH ONE AS PER MANUFACTURER'S RECOMMENDATION TO MAINTAIN DESIRED CONTROL EFFICIENCY, RECORDS FOR CARBON REPLACEMENT EVENTS, WITH DATE, TYPE AND QUANTITY SHALL BE MAINTAINED ON FILE.  
[RULE 204]

22. SPENT CARBON REMOVED FROM THIS SYSTEM SHALL BE MAINTAINED OR STORED IN CLOSED CONTAINERS PRIOR TO REMOVAL FROM SITE.  
[RULE 3004 (a) (1)]

## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

23. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.

[RULE 204]

<b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>STATIONARY SOURCE COMPLIANCE DIVISION</b>  <b>PERMIT APPLICATION EVALUATION AND CALCULATIONS</b>	PAGES 11	PAGE 1
	APPL NO 520793	DATE 8/17/2011
	PROCESSED BY GCR	CHECKED BY

**PERMIT TO CONSTRUCT EVALUATION**

**APPLICANT'S NAME:** ORANGE COUNTY SANITATION DISTRICT (OCSO)

**MAILING ADDRESS:** 10844 ELLIS AVENUE  
FOUNTAIN VALLEY, CA 92708  
ATTN.: TERRY AHN, REGULATORY SPECIALIST

**EQUIPMENT ADDRESS:** WASTEWATER TREATMENT PLANT NO. 1  
"SAME AS ABOVE"

**FACILITY ID NO.:** 017301

**EQUIPMENT DESCRIPTION:**

ODOR CONTROL SCRUBBER SYSTEM (LO/PRO), FOR NEW SLUDGE THICKENING AND DEWATERING FACILITY (JOB NO. P1-101), CONSISTING OF:

1. FOUL AIR EXHAUST DUCT FROM NEW SLUDGE THICKENING AND DEWATERING BUILDING, TOTAL 40,000 CFM.
2. THREE (3) EXHAUST BLOWERS (ONE FOR STAND BY UNIT), EACH 15 H.P., 20,000 CFM.
3. THREE (3) CHEMICAL SCRUBBERS (ONE STANDBY UNIT), EACH 3-STAGE, SIEMENS MODEL LP-6500 OR DUALL MODEL PMTD OR EQUAL, VERTICAL, PACKED BED TYPE, EACH WITH JAEGER, APPROXIMATELY 15 FT. HIGH POLYPROPYLENE PACKING BED, EQUIPPED WITH PH AND OXIDATION REDUCTION POTENTIAL (ORP) PROBES AND CONTROLLERS, DIFFERENTIAL PRESSURE GAUGES, THREE (3) SUMPS, SCRUBBER SOLUTION RECIRCULATION PUMPS AND FLOW METERS, SPRAY NOZZLES, AUTOMATIC CHEMICAL FEED METERING PUMP AND MAKEUP WATER SYSTEM, AND ASSOCIATED SULFURIC ACID (97%), SODIUM HYDROXIDE (25% NaOH SOLUTION), AND SODIUM HYPOCHLORITE (12.5% NaOCl SOLUTION) STORAGE TANKS.
4. FIRST AND FINAL STAGE MIST ELIMINATORS, AND EXHAUST VENTING TO GARANU;AR ACTIVATED CARBON ADSORBERS.
5. TWO (2) DUAL-BED ADSORBERS, IN PARALLEL, EACH SIEMENS MODEL RJC-1300-D OR DUALL MODEL CA-132DB OR EQUIVALENT, EACH CONTAINING MINIMUM OF 12,670 LBS OF GRANULAR ACTIVATED CARBON, 20, 000 SCFM, AND EQUIPPED WITH DIFFERENTIAL PRESSURE GAUGE, SAMPLING PORTS, INSTRUMENTATION, CONTROLS AND OTHER ACCESSORIES.
6. TWO (2) EXHAUST STACKS, EACH 16 ' DIA. X MINIMUM 21.25' HIGH ABOVE GROUND, 20, 000 CFM, AND WITH NO RAIN CAP.

**CONDITIONS:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]

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2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THE EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.  
[RULE 205]
5. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSO) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY). DEVIATIONS FROM THE ABOVE DESCRIPTION AND PROPOSED DESIGN AFFECTING EQUIPMENT PERFORMANCE OR EMISSIONS SHALL BE APPROVED IN WRITING BY THE AQMD.  
[RULE 204]
6. THE EXHAUST BLOWERS ASSOCIATED WITH THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS FOUL-AIR FROM THE SLUDGE THICKENING AND DEWATERING BUILDING IS VENTED THROUGH THE ODOR CONTROL SYSTEM DESCRIBED IN THIS PERMIT. AT NO TIME, THE OPERATOR SHALL ALLOW THE ESCAPE OF FOUL-AIR INTO THE ATMOSPHERE.  
[RULE 401, 402]
7. AT ANY GIVEN TIME ONLY TWO (2) MULTI-STAGE CHEMICAL SCRUBBERS SHALL BE IN OPERATION.  
[RULE 204]
8. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH OF THE MULTI-STAGE CHEMICAL SCRUBBER TO INDICATE THE TOTAL AIR FLOW RATE IN CUBIC FEET PER MINUTE (CFM). THE MEASURED AIR FLOW RATE FOR EACH SCRUBBER SHALL NOT EXCEED 20,000 CFM. IN CASE A PRESSURE SENSOR DEVICE(S) IS USED IN PLACE OF THE FLOW METER(S), A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDENT FLOW RATE(S), IN CFM, TO THE PRESSURE READING.  
[RULE 204]
9. A PRESSURE DIFFERENTIAL GAUGE INDICATING THE PRESSURE DROP ACROSS EACH SCRUBBER PACKING BED SHALL BE INSTALLED AND MAINTAINED. THE PRESSURE DROP ACROSS EACH PACKING BED SHALL BE MAINTAINED BELOW 6.75 INCHES OF WATER COLUMN, WHEN THE SCRUBBER IS IN OPERATION.  
[RULE 1303 (a)(1)- BACT]

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10. A PH METER SHALL BE INSTALLED AND MAINTAINED, FOR EACH SCRUBBER STAGE (SUMP SOLUTION), TO INDICATE PH OF THE SCRUBBING SOLUTION.

THE PH FOR THE FIRST STAGE SCRUBBER SOLUTION (H<sub>2</sub>SO<sub>4</sub>) SHALL BE MAINTAINED BETWEEN 3.0 – 7.0.

THE PH FOR THE 2<sup>ND</sup> AND 3<sup>RD</sup> STAGE SCRUBBER SOLUTION (NaOH AND NaOCL) SHALL BE MAINTAINED BETWEEN 9.0 – 11.0.

[RULE 1303 (a)(1)- BACT]

11. OXIDATION REDUCTION POTENTIAL (ORP) METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE ORP READING (mv) FOR THE SCRUBBING SOLUTION. THE ORP VALUE FOR THE 1<sup>ST</sup> STAGE SCRUBBING SOLUTION SHALL BE MAINTAINED AT 700 mv - 800 mv.

THE ORP VALUE FOR THE 2<sup>ND</sup> AND 3<sup>RD</sup> STAGE SCRUBBING SOLUTION SHALL BE MAINTAINED AT 600 mv - 650 mv.

[RULE 1303 (a)(1)- BACT]

12. A FLOW METER SHALL BE INSTALLED TO INDICATE SCRUBBING SOLUTION FLOW RATE FOR EACH SCRUBBER. THE SCRUBBING SOLUTION FLOW RATE (GPM) FOR EACH STAGE SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATION.

[RULE 204, 1303 (b)(2)-OFFSET]

13. WHEN IN OPERATION, FOR EACH SCRUBBER THE FOUL-AIR FLOW RATE, SCRUBBING SOLUTION FLOW RATE, PH, ORP AND PRESSURE DIFFERENTIAL ACROSS THE SCRUBBER PACKING BED SHALL BE MONITORED AND RECORDED AT LEAST ONCE A DAY.

[RULE 3004 (a) (1)]

14. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH CARBON ADSORBER TO INDICATE THE EXHAUST AIR (FROM CHEMICAL SCRUBBER UNITS) TREATED, IN CUBIC FEET PER MINUTE (SCFM). IN CASE A PRESSURE SENSOR DEVICE IS USED IN PLACE OF THE FLOW METER, A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDING FLOW RATE, IN CFM, TO THE PRESSURE READING.

[RULE 3004 (a) (1)]

15. MAXIMUM EXHAUST AIR FLOW TO BE TREATED BY EACH OF THE CARBON ADSORBER SHALL NOT EXCEED 20,000 SCFM.

[RULE 204, 1303 (b)(2)-OFFSET]

16. WITHIN 60 DAYS AFTER START UP OF THE NEW SLUDGE THICKENING AND DEWATERING EQUIPMENT (OCSJ JOB NO. PI-101), OPERATING AT A STEADY STATE, BUT NOT LATER THAN 180 DAYS AFTER INITIAL START-UP, ORANGE COUNTY SANITATION DISTRICT (OCSJ) SHALL CONDUCT SOURCE TESTS TO DETERMINE EMISSIONS FROM THE ODOR CONTROL SYSTEM DESCRIBED IN THIS PERMIT, IN ACCORDANCE WITH THE AQMD APPROVED SOURCE TESTS PROTOCOL. A TEST PROTOCOL INCLUDING ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, WASTE MANAGEMENT & BULK TERMINALS PERMITTING TEAM, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. NOTICE

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SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL DETERMINE THE EMISSIONS TO ATMOSPHERE FROM THE ODOR CONTROL SYSTEM FOR:

- A. TOTAL NON-METHANE HYDROCARBONS (TNMHC) AND TOXIC AIR CONTAMINANTS (TAC) PRESENT, (LBS/HR AND PPMV) – INLET AND EXHAUST.
  - B. AMMONIA AND HYDROGEN SULFIDE (H<sub>2</sub>S), (LBS/HR AND PPMV) – INLET AND EXHAUST.
  - C. CARBON DIOXIDE, OXYGEN AND NITROGEN
  - D. MOISTURE CONTENT, TEMPERATURE AND EXHAUST FLOW RATE.
- [RULE 204, 1303 (b)(2)-OFFSET, 1401]
17. ADEQUATE NUMBER OF SAMPLING PORTS WITH ITS SAFE ACCESS, SHALL BE INSTALLED AND MAINTAINED FOR THE ODOR CONTROL UNIT AND EXHAUST STACKS IN ACCORDANCE WITH SCAQMD'S RULE 217.  
[RULE 217]
  18. A PRESSURE DIFFERENTIAL GAUGE INDICATING THE PRESSURE DROP (INCHES OF WATER COLUMN) ACROSS EACH CARBON BED SHALL BE INSTALLED AND MAINTAINED. THE PRESSURE DROP ACROSS EACH CARBON BED SHALL BE MAINTAINED AS PER MANUFACTURER'S SPECIFICATION AND RECOMMENDATION. PRESSURE DROP READING SHALL BE RECORDED AT LEAST ONCE A DAY.  
[RULE 1303 (a)(1)-BACT]
  19. AMMONIA (NH<sub>3</sub>) AND HYDROGEN SULFIDE (H<sub>2</sub>S) CONCENTRATIONS (PPMV), AT THE ADSORBERS' EXHAUST STACKS, SHALL BE MONITORED USING HANDHELD DEVICES (USING LOW RANGE CONCENTRATION DETECTION LIMIT) OR OTHER APPROVED METHODS AT LEAST ONCE A DAY WHEN EQUIPMENT IS IN OPERATION.  
[RULE 3000 (a) (4)]
  20. EMISSIONS FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING.
 

H <sub>2</sub> S	0.20 PPMV
NH <sub>3</sub>	0.50 PPMV

 [RULE 402, 1303 (b)(2)-OFFSET]
  21. ACTIVATED CARBON SHALL BE REPLACED WITH FRESH ONE AS PER MANUFACTURER'S RECOMMENDATION TO MAINTAIN DESIRED CONTROL EFFICIENCY, RECORDS FOR CARBON REPLACEMENT EVENTS, WITH DATE, TYPE AND QUANTITY SHALL BE MAINTAINED ON FILE.  
[RULE 204]
  22. SPENT CARBON REMOVED FROM THIS SYSTEM SHALL BE MAINTAINED OR STORED IN CLOSED CONTAINERS PRIOR TO REMOVAL FROM SITE.  
[RULE 3004 (a) (1)]
  23. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.



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[RULE 204]

### **BACKGROUND:**

On April 7, 2011, Orange County sanitation District (OCSDD) submitted this application #520793 for construction of odor control system to treat exhaust from the proposed new sludge Thickening and sludge Dewatering facility (A/N 520794). The existing Dewatering Facility Scrubbers permit (PO F40906, A/N 386679) will be inactivated at a later date as this new odor control system is a replacement system.

This is a Title V facility. Most recent TV revision was issued August 27, 2010. OCSDD has also filed A/N 520794 to modify existing POTW PC under 453210 for construction of the new sludge Thickening and sludge Dewatering facility. Also, A/N 520795 is filed for Title V revision to include equipment under A/Ns 520793 and 520794.

### **PROCESS DESCRIPTION:**

Orange County Sanitation District (OCSDD) has proposed to upgrade to secondary treatment for Fountain Valley wastewater Treatment facility (Plant No. 1). This includes replacing or rehabilitating the existing sludge dewatering facility. OCSDD has proposed a new sludge thickening and dewatering facility which is referred to by OCSDD as Job No. P1-101. The new facility will consist of;

- Three sludge blending tanks
- Three sludge thickening centrifuges
- Three thickened sludge wet wells
- Three dewatering centrifuges
- Two dewatered cake hoppers and other associated equipment.

This new facility will replace the existing belt press dewatering system (PC 453210) and upgrade or replace sludge conveyance and pumping station, cake storage and load-out system, chemical feed system, ventilation and other electrical and control systems. These equipment will be located in a building, called sludge thickening and dewatering facility, and all exhaust from the building (40, 000 cfm) that may contain VOCs, NH<sub>3</sub> and H<sub>2</sub>S will be treated by the new odor control system (this A/N 520793) that will replace existing odor control system permitted under F40906, A/N 386679.

**New odor control system** consists of "once-through", three (3) multi-stage chemical scrubbers (2 on duty, one stand-by) that will treat 40,000 cfm of foul air containing TOCs, NH<sub>3</sub> and H<sub>2</sub>S (20,000 cfm per scrubber, two units in service). Exhaust from the scrubbers will be further treated by two granular activated carbon adsorbers to remove residual TOCs and odors. Three stage operations are briefly explained here.

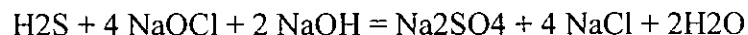
#### 1<sup>st</sup> stage: (H<sub>2</sub>SO<sub>4</sub> scrubbing solution)

H<sub>2</sub>SO<sub>4</sub> scrubbing solution will remove ammonia and amines. Under acidic conditions and with the presence of H<sub>2</sub>SO<sub>4</sub>, ammonia reduced to ammonium sulfate (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>. PH is maintained in the range of 3-7 with Oxidation Reduction Potential (ROP) of 700 mV to 800 mV. Chemical is added to the sump by automatic metering pump to maintain the desired PH and ORP. These parameters are continuously monitored and controlled.

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2<sup>nd</sup> and 3<sup>rd</sup> stage @ NaOH + NaOCl scrubbing solution)

Under alkaline conditions and with the presence of excess NaOCl, H<sub>2</sub>S is oxidized to form sulfuric acid which is then neutralized by NaOH to form byproduct sodium sulfate. PH is maintained in the range of 9-11 with Oxidation Reduction Potential (ROP) of 600 mV to 650 mV. Chemicals are added to the sumps by automatic metering pumps to maintain the desired PH and ORP. These parameters are continuously monitored and controlled.



A polypropylene packing media is provided to allow for the necessary chemical reactions to occur in the system. The packing is designed to allow the maximum amount of surface area while minimizing the pressure drop. This configuration is critical to maximize the amount of liquid to gas contact in the system thereby maximizing the removal efficiency of the system and minimizing chemical consumption.

The slat byproducts, dissolved in the sump liquid overflows out of the sump and at the same rate fresh water is injected into the sump. A pressure differential gauge is provided to insure that the packing does not retain excess amount of the byproducts or "plug".

AFTER treatment by the LO/PRO chemical scrubber system, air containing trace amount of odorous compounds, are treated by a Granular Activated carbon (GAC) adsorber, a dual-bed adsorber. After entering the vessel, half of the air flows downward through a 3-ft deep lower bed of media and half of the air flows upwards through a 3-ft upper bed media. There are two adsorbers, in parallel, each treating 20,000 cfm air (total 40,000 cfm). Cleaned air is exhausted through the respective stacks.

Following are specifications for the packed –bed scrubber (single Unit) and GAC system,

Manufacturer: Siemens LP-6500 OR Duall PTMD OR Equivalent

Packing material type: Jeager, polypropylene

Packing Factor: 1.25

Packing Size: 3.5"

Height of Packing Material: 15.0 ft.

Number of Transfer Unit (NTU): 8

Height of Transfer Unit (HTU): 1.43 ft.

Pressure Drop: 0.45 in H<sub>2</sub>O/ft or 6.75 in. H<sub>2</sub>O across 15' packing material

Mist Eliminator: Internal, 1<sup>st</sup> and 3<sup>rd</sup> stage scrubbers

Overall pressure drop across the scrubber = 11 in. H<sub>2</sub>O

Exhaust blower = 20,000 cfm, 100 HP (Total 40,000 cfm, 2 units).

Recirculation pump, 1 = 15 HP.

Recirculation water flow rate = 400 gpm

Make up water rate = 12 gpm.

PH operating Range = 3-7 1<sup>st</sup> stage ( H<sub>2</sub>SO<sub>4</sub>), 9.0 – 11 2<sup>nd</sup> & 3<sup>rd</sup> stage (NaOH & NaOCl)

Oxidation Reduction Potential (ORP) = minimum 700 mV – 800 mV (1<sup>st</sup> stage)  
= minimum 600 mV – 650 mV (2<sup>nd</sup> & 3<sup>rd</sup> stage)

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Granular Activated Carbon (GAC) Adsorbers:

Manufacturer = Siemens or Duall or Equivalent

Number of vessels = 2, each one is a dual-bed

Media = Pelletized Anthracite

Media capacity = 12,670 lbs each adsorber, 3' x 2 = 6' depth for dual-bed.

Odor removal capacity = 0.30 g H<sub>2</sub>S/ cc carbon (= 0.60 lbs H<sub>2</sub>S/lb carbon)

Air flow per vessel = 20,000 cfm

Exhaust stack = 2' Dia. X 21.25' above ground level, no rain cap

Exhaust temperature = Ambient.

Pressure drop across adsorber = 3" – 4" water column (Duall carbon system)\*  
= 4.5" water column (Siemens Water Technologies)\*

\*E-mail from Manufacturers, 8/04/2011.

**EMISSION CALCULATIONS:**

Max. exhaust flow rate = total 40,000 scfm

Overall TOC control efficiency = 99% assumed (3 stage scrubbers + GAC)

Max. Inlet H<sub>2</sub>S con. = 20 ppmv (per application)

H<sub>2</sub>S odor control efficiency = 99%, for the packed -bed chemical scrubber

Max. Inlet NH<sub>3</sub> con. = 50 ppmv (per application)

NH<sub>3</sub> odor control efficiency = 99%, for the packed -bed chemical scrubber

Operating Schedule = 24 hrs/day, 7 days/wk, 52 wks/yr.

Assume TOC = VOC (as hourly emission for specific compound is in order of E-03 to E-06, and exempt VOC compounds (MeCl<sub>2</sub> and Perc) are in the range of E-04 to E-05).

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Estimated TOC (VOC) emissions from the dewatering building for 40,000 cfm exhaust air are listed below (as provided by Black & Veatch. See E-mail from OCSD, 8/03/2011)

	<u>Lb/hr. controlled</u> (40,000 cfm)	<u>Lb/hr. controlled</u> (20,000 cfm/exhaust stack)
Benzene	1.41E-06	7.05E-07
Chloroform	202 E-04	1.01E-04
1,4 (p)-dichlorobenzene	2.75E-04	1.375E-04
Methylene chloride*	1.83E-05	9.15E-06
Perchloroethylene*	1.28E-04	6.40E-05
Styrene	7.12E-06	3.56E-06
Toluene	1.95E-03	9.75E-04
Trichloroethylene	5.69E-06	2.845E-06
Xylene	2.32E-03	1.16E-03
Total	4.907E-03	2.453E-03
*Exempt VOC		

Total TOC (VOC) controlled emission (40,000 cfm) = **0.0049 lb/hr (R<sub>2</sub>)** = 0.117 lbs/day  
Uncontrolled emission @ 95% efficiency = 0.0049 / 0.05 = **0.10 lb/hr (R<sub>1</sub>)** = 2.4 lbs/day  
No VOC monitoring condition proposed due to very low estimated emission.

### **H<sub>2</sub>S & NH<sub>3</sub> Emissions**

Based on maximum inlet H<sub>2</sub>S concentration in 40,000 cfm exhaust = 20 ppmv (Given per application)

and maximum inlet NH<sub>3</sub> concentration in 40,000 cfm exhaust = 50 ppmv (Given per application)

Assumed control efficiency = 99%

**H<sub>2</sub>S (R<sub>1</sub>)** = (40000 scfm) (20 E-06) (1/379) (34) (60) = **4.30 lbs/hr** = 103.2 lbs/day.

**H<sub>2</sub>S (R<sub>2</sub>)** = 4.30 lbs/hr (1.0 - 0.99) = **0.0431 lbs/hr** = 1.03 lbs/day

**NH<sub>3</sub> (R<sub>1</sub>)** = (40000 scfm) (50 E-06) (1/379) (17) (60) = **5.38 lbs/hr** = 129.1 lbs/day.

**NH<sub>3</sub> (R<sub>2</sub>)** = 5.38 lbs/hr (1.0 - 0.99) = **0.0538 lbs/hr** = 1.30 lbs/day

No PM<sub>10</sub> emission is expected from this odor control equipment (No PM<sub>10</sub> measurement source tests is warranted and not included in source tests condition).

Note: Estimate for dissolved salts solids' entrainment from the multi-stage chemical scrubbers (assumed 20% moisture in exhaust),

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= 3.88E-06 grains/cf exhaust (See spreadsheet calculations)  
 = 3.88E-06 grains/cf x ( 40000 cfm x 0.80 x 60) / 7,000 grains/lb  
 = 0.001lbs/hr = 0.024 lbs/day.

No PM<sub>10</sub> monitoring condition proposed due to very low estimated emission.

#### Estimated Carbon Breakthrough – VOC

(Almost all of Ammonia and H<sub>2</sub>S are expected to be removed by multi-stage chemical scrubbers with 95% or better expected control efficiency and GAC adsorbers are used for polishing any residual odorous compounds present in downstream of scrubbers)

VOC loading per adsorber = 0.1 lb/hr /2 = 0.05 lbVOC/hr, in 20000 cfm air  
 = 1.2 lb VOC/day (uncontrolled).

VOC adsorption capacity for GAC = 0.05 lb VOC/lb carbon x 12,670 lbs C = 633 lbs VOC  
 Breakthrough (single adsorber, 20,000 cfm),  
 = 633 lbs VOC/ 1.2 lbs VOC loading /day = 527 days = 1.44 yrs.

#### AEIS/NSR:

VOC, ammonia and H<sub>2</sub>S emissions are assigned to basic equipment A/N 520794, Sewage Treatment > 5 mgd. Therefore, emissions data entry under this A/N 520793 entered as zero (VOC, ammonia & H<sub>2</sub>S).

#### ODOR CONTROL ANALYSIS:

H<sub>2</sub>S in exhaust is conditioned for 0.2 ppmv. This limit will comply with odor threshold limits under CSAAQS and OEHHHA (see below).

Screen 3 analysis indicated 1-hr maximum ground level con.@ nearest residential receptor  
 (185 meters)  
 = 22.66 mcg/m<sup>3</sup> @ 1 lb/hr emission rate.

H<sub>2</sub>S emission rate at 20,000 cfm (per stack) = 0.0431/2 = 0.0215 lb/hr.

0.0215 lbs H<sub>2</sub>S /hr x 22.66 mcg/m<sup>3</sup> / 1 lb/hr x (0.02445 / 34)  
 = 0.00035 ppmv H<sub>2</sub>S  
 = 0.35 ppbv < 30 ppbv H<sub>2</sub>S limit under CSAAQS.  
 and < 8 ppbv H<sub>2</sub>S odor threshold under OEHHHA.

California State Ambient Air Quality Standard (CSAAQS)  
 California Office of Environmental Health Hazard Assessment Office (OEHHHA).

Note: Cumulative impact from emissions from two (2) stacks is expected to be below allowable odor thresholds.

Therefore, H<sub>2</sub>S con. limit in exhaust = 0. 20 ppmv for permit condition is okay (Applicant claims 0.1 ppmv).

**NH<sub>3</sub>** concentration in exhaust is conditioned to 0.5 ppmv < 17 ppmv odor threshold limit (OEHHHA).

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### **RULES EVALUATION:**

- Rule 212:** This is not a significant project in terms of emissions.  
There are no schools within 1000' of emission source.  
Emissions are expected below daily emission threshold.  
MICR is expected to be below ten in a million with T-BACT.  
No public notice is required.  
Compliance is expected.
- Rule 219:** Sulfuric acid,  $\leq 99\%$  by wt., storage tank is exempt form permit per Rule 219 (m) (A).  
Sodium hydroxide storage tank is exempt form permit per Rule 219 (m) (C).  
Sodium hypochlorite solution storage tank is exempt form permit per Rule 219 (m) (19).
- Rule 401:** The equipment is not expected to emit visible emissions with proper operation and maintenance.
- Rule 402:** With proper operation, monitoring and maintenance of the equipment no odor complaints are anticipated. Permit condition for ammonia and H<sub>2</sub>S conc. In exhaust shall comply with odor threshold limits. Compliance is expected.
- Rule 404:** No PM emissions expected from the proposed odor control system.  
Note: PM<sub>10</sub> emission (dissolved salts entrainment) from chemical scrubbers with demister is estimated at 3.88E-06 grains/scf which is below 0.0463 grains.dscf allowed for 42380 cfm under Table 404(a). compliance is expected.
- Reg. 13:** CEQA – Proposed OCSD Project (No. P1-101), in accordance with US EPA's procedures for implementing National Environmental Policy Act (40CFR Part 6), EPA has determined that this project is eligible for categorical exemption under 40CFR §6.107 and is exempt from the substantive environmental review requirements of the National Environmental Policy Act (42 U.S.C. 4321 et seq). Copy of this exemption is included in folder.
- For VOC, ammonia and H<sub>2</sub>S emissions control using multi-stage chemical scrubbers followed by GAC, and overall control efficiency of 99%, compliance with BACT/LAER is expected.
- No Offset is required for VOC (0.117 lb/day).  
H<sub>2</sub>S and ammonia are not required any offset (ammonia is subject to BACT but not offset). Compliance is expected.
- Rule 1401:** Pass Tier 1 screening with pollutant screening index (PSI) <1, each, for cancer/chronic ASI and acute ASI.
- Tier 2 results: MICR = 2.38E-08 (Res.) < 10 in a million with T-BACT.

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HIC and HIA are estimated to be < 1 for each applicable organ.  
Compliance is expected.

**Rule 1401.1:** Exempt. This is an existing facility.

**Reg. 30:** Most recent TV revision was issued August 27, 2010.  
OCSD has submitted A/N 520795 for Title V permit revision to include the  
  
proposed project, P1-101. Compliance is expected with completion of  
public notice and EPA 45-day review..

**RECOMMENDATION:**

A permit to construct is recommended subject to above listed conditions and, upon approval and issuance of the Title V permit revision.

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**PERMIT TO CONSTRUCT EVALUATION**

**APPLICANT'S NAME:** ORANGE COUNTY SANITATION DISTRICT (OCSO)

**MAILING ADDRESS:** 10844 ELLIS AVENUE  
FOUNTAIN VALLEY, CA 92708  
ATTN.: TERRY AHN, REGULATORY SPECIALIST

**EQUIPMENT ADDRESS:** WASTEWATER TREATMENT PLANT NO. 1  
"SAME AS ABOVE"

**FACILITY ID NO.:** 017301

**EQUIPMENT DESCRIPTION:**

ALTERATION OF THE EXISTING SEWAGE TREATMENT PLANT (216 MGD), COVERED BY PERMIT TO CONSTRUCT APPLICATION NO.432418 453210 (AND EXISTING P/O F66565), CONSISTING OF:

1. HEADWORKS STATION NO. 1 WITH TWO GRIT CHAMBERS, 28'-0" L. X 20'-0" W. X 14'-0" D., TWO SPLITTER BOXES, 15'-0" L. X 4'-0" W. X 7'-6" D., TWO GRIT CLASSIFIERS, AND ASSOCIATED PUMPS AND BLOWER.
2. HEADWORKS STATION NO. 2 WITH FIVE GRIT CHAMBERS, 38'-0" L. X 20'-0" W. X 14'-0" D., THREE SPLITTER BOXES, 15'-0" L. X 8'-0" W. X 15'-0" D., FOUR BAR SCREENS WITH A RAKE ASSEMBLY, EIGHT GATE OPERATORS, FIVE SPLITTER BOX WEIR GATE OPERATORS, AND ASSOCIATED PUMPS, BLOWERS AND COMPRESSOR.
3. FIFTEEN PRIMARY BASINS CONSISTING OF TWO 188'-0" L. X 40'-0" W. X 9'-0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS, THREE 140'-0" DIA. X 9'-0" D. CIRCULAR BASINS WITH ALUMINUM GEODESIC DOME COVERS, TEN 10'-0" L. X 195'-0" W. X 10'-0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS AND ASSOCIATED PUMPS AND BLOWERS.
4. FOUR TRICKLING FILTERS, EACH 180' DIA. X 6'-0" D., WITH TWO GATE OPERATORS AND ASSOCIATED PUMPS.
5. SECONDARY CLARIFIERS CONSISTING OF ONE 140'-0" DIA. X 9'-0" D. AND TWENTY-FOUR 150'-0" L. X 40'-0" W. X 10'-0" D. WITH ASSOCIATED PUMPS.
6. ACTIVATED SLUDGE PLANT PRIMARY EFFLUENT PUMP STATION WITH ASSOCIATED PUMPS.
7. TEN AERATION BASINS, EACH 275'-0" L. X 45'-0" W. X 15'-0" D. WITH ASSOCIATED BLOWERS.
8. SIX SLUDGE THICKENERS, EACH 40'-0" DIA. X 8'-0" D., WITH ASSOCIATED SWEEP DRIVER AND CONVEYORS.



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9. TWELVE DIGESTER TANK CONSISTING OF FOUR 90' -0" DIA. X 30' - 0" D, EACH 208,780 CUBIC FEET CAPACITY, EIGHT 110' -0" DIA. X 30' - 0" D, EACH APPROXIMATELY 330,430 CUBIC FEET CAPACITY WITH ASSOCIATED PUMPS AND COMMUNUTERS.
10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'- 0" L. X 56'- 0" W. X 3' -2" D.
11. DIGESTER GAS STORAGE TANKS, 25,000 CUBIC FEET CAPACITY, 42'-0" DIA. X 33' - 6" H. WITH THREE COMPRESSORS.
12. SLUDGE PROCESSING STATION WITH TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES,TRANSFER PUMP HOPPERS, AUGERS, STORAGE HOPPERS AND A TRUCK LOAD-OUT HOPPER.
- 13.\* SIXTEEN PRIMARY BASINS, 195'- 0" L. X 40'- 0" W. X 10' -0" D., EACH WITH CONCRETE COVERS AND 6 MGD AVERAGE CAPACITY AND ASSOCIATED PUMPS AND BLOWERS.
- 14.\* FOUR EXISTING TRICKLING FILTERS (ITEM NO. 4 ABOVE) REPLACED WITH TWO NEW TRICKLING FILTERS, EACH 166' DIA. X 20' - 0" MEDIA DEPTH, AND ASSOCIATED PUMPS. EACH NEW TRICKLING FILTER WITH TWO EXHAUST STACKS, EACH STACK 40' HIGH, AND WITH A TOTAL AIR FLOW RATE OF 25,000 CFM PER TRICKLING FILTER.
- 15.\* ONE EXISTING SECONDARY CLARIFIER (ITEM NO. 5 ABOVE) REPLACED WITH TWO NEW SECONDARY CLARIFIERS CONSISTING OF 175' - 0" DIA. X 15' - 0" D. WITH ASSOCIATED PUMPS.

\* Construction for the above items 13, 14, and 15 has been completed (under A/N 407071).

**BY THE ADDITION OF:** (OCSD JOB NO. P1-82 ACTIVATED SLUDGE PLANT REHABILITATION) UNDER A/N 432418.

16. TWO NEW SECONDARY CLARIFIERS, EACH 150'- 0" L. X 40'- 0" W. X 10' - 0" D.

**BY THE REMOVAL OF:**

10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'- 0" L. X 56'- 0" W. X 3' -2" D.

**AND BY THE ADDITION OF:**

17. NEW SECONDARY ACTIVATED SLUDGE FACILITY 2 (OCSD JOB NO. P1-102), AND NEW SLUDGE DEWATERING BEDS (OCSD JOB NO. P1-106) UNDER A/N 453210,
  - I. SIX AERATION BASINS (NOS. 11 THROUGH 16), COVERED, EACH 227' - 2" L. X 45' - 0" W. X 26' - 0" D., WITH ASSOCIATED AERATION BLOWERS, DIFFUSERS, MIXERS, AND PUMPS, AND VENTING THROUGH SIX STACKS, EACH 7' - 11" H., AND 10,000 SCFM.
  - II. SIX SECONDARY CLARIFIERS (NOS. 27, 29, 31, 32, 33, AND 34), UNCOVERED, EACH 155' DIA. X 16' SIDE WATER D., WITH ASSOCIATED RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SECONDARY SCUM PUMPS.

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- III. SODIUM HYPOCHLORITE (NaOCl) SOLUTION SYSTEM ADDITION (TO THE EXISTING BLEACH SYSTEM) FOR CHLORINATION OF THE TREATED EFFLUENT, RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SURFACE WASTE.

18. SLUDGE MANAGEMENT SYSTEM CONSISTING OF:

- I. TRUCK WASH STATION
- II. SAWDUST STORAGE
- III. TWO (2) DEWATERING BEDS FOR PLANT CLEANING OPERATIONS, EACH 110' - 0" L. X 56' - 0" W., AND WITH APPROXIMATELY 580 CUBIC YARDS CAPACITY.
- IV. ONE DEWATERING BED FOR PLANT CLEANING OPERATIONS, 100' - 0" L. X 24' - 0" W., WITH APPROXIMATELY 44 CUBIC YARDS CAPACITY.

\*\*\*

**BY THE REPLACEMENT/UPGRADE OF:** (OCSJ JOB NO. P1-101- NEW SLUDGE THICKENING AND DEWATERING FACILITY, NEW A/N 520794),

19. REPLACE TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES (LISTED UNDER ITEM NO. 12)
20. UPGRADE, REPLACE OR MODIFY;
- I. SLUDGE CONVEYANCE AND PUMPING SYSTEM
  - II. BIOSOLIDS STORAGE AND LOAD-OUT SYSTEM
  - III. CHEMICAL FEED SYSTEM
  - IV. VENTILATION SYSTEM AND VARIOUS OTHER ELECTRICAL AND CONTROL SYSTEMS.
  - V. MODIFY EXISTING TRUCKLOADING FACILITY TO IMPROVE ODOR CONTROL AND TO ALLOW STORAGE AND CONVEYANCE OF A DRIER DEWATERED CAKE/BIOSOLIDS.

**AND BY THE ADDITION OF:** (OCSJ JOB NO. P1-101- NEW SLUDGE THICKENING AND DEWATERING FACILITY, NEW A/N 520794),

21. THREE (3) SLUDGE BLENDING TANKS  
POLYMER SYSTEM CONSISTING OF POLYMER STORAGE, MIXING AND AGING TANKS.  
THREE (3) SLUDGE THICKENING CENTRIFUGES  
THREE (3) THICKENED SLUDGE WETWELLS  
THREE (3) DEWATERING CENTRIFUGES  
DEWATERED CAKE CONVEYANCE SYSTEM CONSISTING OF INCLINED SCREW CONVEYORS, HORIZONTAL/CROSS CONVEYERS, HORIZONTAL COLLECTOR CONVEYORS, CAKE STORAGE AND SOLIDS LOAD OUT CAKE SILOS (EXISTING), AND TRUCK LOAD OUT HOPPER.

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**Conditions:**

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.  
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.  
[RULE 204]
3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL MAKE A WRITTEN REQUEST FOR AND OBTAIN AN EXTENSION OF TIME TO CONSTRUCT THIS EQUIPMENT ON AN ANNUAL BASIS UNTIL SUCH TIME CONSTRUCTION IS COMPLETED AND THE EQUIPMENT IS PUT INTO OPERATION. AT LEAST 30 DAYS PRIOR TO THE EXPIRATION DATE OF THE PERMIT TO CONSTRUCT, OCSD SHALL PROVIDE IN THE WRITTEN REQUEST, VERIFIABLE DATA TO AQMD IN ORDER TO SHOW COMPLIANCE WITH THE CONSTRUCTION SCHEDULE AS PROVIDED IN THE APPLICATION UNDER WHICH THIS PERMIT TO CONSTRUCT IS GRANTED. IF THERE ARE CHANGES TO THE INCREMENTS OF PROGRESS AND/OR CONSTRUCTION SCHEDULE, THEY WILL NOT BECOME EFFECTIVE UNTIL OCSD RECEIVES WRITTEN CONFIRMATION OF SUCH CHANGES FROM AQMD.  
[RULE 204]
5. THE HEADWORKS FACILITIES, PRIMARY TREATMENT BASINS, AND NEW SLUDGE THICKENING AND DEWATERING AND SOLIDS PROCESSING AND HANDLING FACILITY (JOB P1-101) SHALL NOT BE OPERATED UNLESS THEY ARE FULLY ENCLOSED AND THEIR EXHAUST AIR VENTED TO AIR POLLUTION CONTROL SYSTEMS, WHICH ARE IN FULL OPERATION AND HAVE VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD. IN THE EVENT AIR POLLUTION CONTROL SYSTEM(S) ARE SHUTDOWN FOR CONSTRUCTION OR MAINTENANCE WORK, THE H<sub>2</sub>S EMISSIONS SHALL NOT EXCEED THE CONCENTRATION LIMITS AS SPECIFIED IN THE SHUT DOWN OF AIR POLLUTION CONTROL EQUIPMENT PERMIT.  
[RULE 402]
6. THE DAILY TOTAL INFLUENT FLOW, IN MILLION GALLONS PER DAY (MGD), TO THE HEADWORKS, PRIMARY TREATMENT PROCESS, AND SECONDARY TREATMENT PROCESS SHALL BE RECORDED.  
[RULE 204]
7. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE PRIMARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 216 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]

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8. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE SECONDARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 92 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]
  
9. THE AVERAGE DAILY PRIMARY EFFLUENT FLOW RATE, TREATED BY THE NEW ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102 CONSISTING OF SIX AERATION BASINS AND SIX SECONDARY CLARIFIERS), SHALL NOT EXCEED 60 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.  
[RULE 204]
  
10. WITHIN 60 DAYS AFTER ACHIEVING THE MAXIMUM INFLUENT FLOW RATE FOR THE ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102), BUT NOT LATER THAN 180 DAYS AFTER INITIAL START-UP, ORANGE COUNTY SANITATION DISTRICT (OCSO) SHALL CONDUCT SOURCE TESTS TO DETERMINE EMISSIONS FROM AT LEAST TWO OF THE SIX NEW AERATION BASINS' EXHAUST STACKS, AND AT LEAST TWO OF THE SIX NEW SECONDARY CLARIFIERS' SURFACE EMISSIONS, IN ACCORDANCE WITH THE AQMD OR OTHER APPROVED TEST PROCEDURES. A TEST PROTOCOL INCLUDING ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, REFINERY AND WASTE MANAGEMENT TEAM, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL DETERMINE THE EMISSIONS TO ATMOSPHERE FROM TWO OF THE AERATION BASINS AND TWO OF THE SECONDARY CLARIFIERS FOR:
  - A. TOTAL NON-METHANE HYDROCARBONS (TNMHC) AND TOXIC AIR CONTAMINANTS (TAC) PRESENT, (LBS/HR AND PPMV).
  - B. AMMONIA AND HYDROGEN SULFIDE (H<sub>2</sub>S), (LBS/HR AND PPMV).
  - C. CARBON DIOXIDE, OXYGEN AND NITROGEN
  - D. MOISTURE CONTENT, TEMPERATURE AND EXHAUST FLOW RATE.
  
11. ADEQUATE NUMBER OF SAMPLING PORTS WITH ITS SAFE ACCESS, SHALL BE INSTALLED AND MAINTAINED IN THE AERATION BASINS' EXHAUST STACK (JOB NO. P1-102) IN ACCORDANCE WITH SCAQMD'S RULE 217.  
[RULE 217]
  
12. ORANGE COUNTY SANITATION DISTRICT (OCSO) SHALL CALCULATE THE MAXIMUM INDIVIDUAL CANCER RISK (MICR), ACUTE HAZARD INDEX (HIA) AND CHRONIC HAZARD INDEX (HIC), BASED ON THE SOURCE TESTS RESULTS, USING AQMD PUBLISHED "RISK ASSESSMENT PROCEDURES FOR RULES 1401 AND 212" (VERSION 7.0, JULY 1, 2005), TO DETERMINE THE COMPLIANCE WITH RULE 1401. RESULTS SHALL BE SUBMITTED TO AQMD.  
[RULE 1401]

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13. IF SOURCE TESTS RESULTS INDICATE THAT THE TOTAL VOLATILE ORGANIC COMPOUNDS (VOC) EMISSIONS FROM THE AERATION BASINS EXCEED 13 LBS PER DAY OR AS DETERMINED BY AQMD, THEN OCSD SHALL CONDUCT IN DETAIL THE TECHNOLOGICAL FEASIBLE STUDY AND COST-EFFECTIVENESS ANALYSIS FOR A SUITABLE AIR POLLUTION CONTROL EQUIPMENT TO DETERMINE LOWEST ACHIEVABLE EMISSION RATE (LAER) FROM SUCH PROCESS.  
[RULE 1303 (a) (1) – BACT]
14. THE HYDROGEN SULFIDE (H<sub>2</sub>S) CONCENTRATION (PPMV) IN THE EXHAUST STACKS OF EACH TRICKLING FILTER SHALL BE MEASURED AND RECORDED ON A DAILY BASIS.  
[RULE 402]
15. RAW DIGESTER GAS PRODUCED AT THIS FACILITY SHALL NOT BE RELEASED INTO THE ATMOSPHERE. ALL COLLECTED DIGESTER GAS SHALL BE EITHER COMBUSTED IN DIGESTER GAS FLARES, INTERNAL COMBUSTION ENGINES, OR BOILERS WITH VALID AQMD PERMIT, OR SHALL BE TREATED THROUGH A PERMITTED AIR POLLUTION CONTROL DEVICE(S).  
[RULE 402]
16. THE SAWDUST USED IN THE SLUDGE MANAGEMENT SYSTEM SHALL BE STORED AND KEPT SUFFICIENTLY MOIST TO PREVENT ANY AIR BORNE PARTICULATE MATTER EMISSIONS.  
[RULE 402]
17. OCSD SHALL KEEP THE FOLLOWING DAILY RECORDS WITH REGARDS TO THE SLUDGE MANAGEMENT SYSTEM,
  - I. THE AMOUNT OF SLUDGE DEWATERED IN EACH DRYING BED.
  - II. NUMBER OF TRUCKS WASHED.
  - III. NUMBER OF LEAKY OR OVERFILLED TRUCKS.
 [RULE 204]
18. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.  
[RULE 204]

### **BACKGROUND:**

On April 7, 2011, Orange County sanitation District (OCSD) submitted this application #520794 for alteration/modification of the existing Sewage Treatment Plant (PC 453210).

The proposed modifications include;

Replacement of grinders and dewatering belt filter presses

Upgrade, replace or modify chemical feed system, sludge pumping and conveyance system, solids processing, handling, storage and load-out system, ventilation system and other electrical and control systems and,

Installations of;

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Sludge blending tanks, polymer storage, mixing and aging tanks, sludge thickening centrifuges, thickened sludge wetwells, dewatering centrifuges, dewatered cake conveyance (screw) system and truck load out hopper.

The proposed modifications is termed as "New sludge thickening and dewatering facility", OCSD Job No. P1-101. All equipment are located in a building and collected foul air, 40,000 cfm, venting to the proposed new odor control system for which a new A/N 520793 is submitted. [The existing Dewatering Facility Scrubbers permit (PO F40906, A/N 386679) will be inactivated at a later date as this new odor control system is a replacement system.]

Project schedule consists of completion of final design, bid advertisement, notice to proceed, begin construction (April 2012) and with project completion target date of March 2015.

Also, A/N 520795 is filed for Title V revision to include equipment under A/Ns 520793 and 520794.

This is a Title V facility. Most recent TV revision was issued August 27, 2010.

#### **PROCESS DESCRIPTION:**

The new Sludge Thickening and Dewatering Facility (OCSD Job No. P1-101) will have treatment capacity of 155 mgd and will include equipment described under Background and as listed under equipment description item Nos. 19, 20 and 21.

Total of 40,000 cfm of foul air (design basis) from the building will be vented to the new odor control system (A/N 520793). This consists of 17,000 cfm from the new process and 15,000 cfm from the existing processes - solids handling, storage and load out system, solids handling (total 32,000 cfm).

Proposed New Process	Air flow, cfm- Design
3-Dewatering Centrifuges	5525
4-Thickening Centrifuges	6000
3-Blend Tanks	3000
4-Thickened Wetwells	1000
Centrate Wells/Cake Hopper	1475

#### **EMISSION CALCULATIONS:** (from odor control system evaluation, A/N 520793)

Max. exhaust flow rate = total 40,000 scfm

Overall TOC control efficiency = 99% assumed (3 stage scrubbers + GAC)

Max. Inlet H<sub>2</sub>S con. = 20 ppmv (per application)

H<sub>2</sub>S odor control efficiency = 99%, for the packed -bed chemical scrubber

Max. Inlet NH<sub>3</sub> con. = 50 ppmv (per application)

NH<sub>3</sub> odor control efficiency = 99%, for the packed -bed chemical scrubber

Operating Schedule = 24 hrs/day, 7 days/wk, 52 wks/yr.

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Assume TOC = VOC (as hourly emission for specific compound is in order of E-03 to E-06, and exempt VOC compounds (MeCl<sub>2</sub> and Perc) are in the range of E-04 to E-05).

Estimated TOC (VOC) emissions from the dewatering building for 40,000 cfm exhaust air are listed below (as provided by Black & Veatch. See E-mail from OCSD, 8/03/2011)

	<u>Lb/hr, controlled</u> (40,000 cfm)	<u>Lb/hr, controlled</u> (20,000 cfm/exhaust stack)
Benzene	1.41E-06	7.05E-07
Chloroform	202 E-04	1.01E-04
1,4 (p)-dichlorobenzene	2.75E-04	1.375E-04
Methylene chloride*	1.83E-05	9.15E-06
Perchloroethylene*	1.28E-04	6.40E-05
Styrene	7.12E-06	3.56E-06
Toluene	1.95E-03	9.75E-04
Trichloroethylene	5.69E-06	2.845E-06
Xylene	2.32E-03	1.16E-03
Total	4.907E-03	2.453E-03
*Exempt VOC		

Total TOC (VOC) controlled emission (40,000 cfm) = **0.0049 lb/hr (R<sub>2</sub>)** = 0.117 lbs/day

Uncontrolled emission @ 95% efficiency = 0.0049 / 0.05 = **0.10 lb/hr (R<sub>1</sub>)** = 2.4 lbs/day

No VOC monitoring condition proposed due to very low estimated emission.

### H<sub>2</sub>S & NH<sub>3</sub> Emissions

Based on maximum inlet H<sub>2</sub>S concentration in 40,000 cfm exhaust = 20 ppmv (Given per application)

and maximum inlet NH<sub>3</sub> concentration in 40,000 cfm exhaust = 50 ppmv (Given per application)

Assumed control efficiency = 99%

H<sub>2</sub>S (R<sub>1</sub>) = (40000 scfm) (20 E-06) (1/379) (34) (60) = **4.30 lbs/hr** = 103.2 lbs/day.

H<sub>2</sub>S (R<sub>2</sub>) = 4.30 lbs/hr (1.0 - 0.99) = **0.0431 lbs/hr** = 1.03 lbs/day

NH<sub>3</sub> (R<sub>1</sub>) = (40000 scfm) (50 E-06) (1/379) (17) (60) = **5.38 lbs/hr** = 129.1 lbs/day.

NH<sub>3</sub> (R<sub>2</sub>) = 5.38 lbs/hr (1.0 - 0.99) = **0.0538 lbs/hr** = 1.30 lbs/day

No PM<sub>10</sub> emission is expected from this odor control equipment.

Note: Estimate for dissolved salts solids' entrainment from the multi-stage chemical scrubbers (assumed 20% moisture in exhaust),

= 3.88E-06 grains/cf exhaust (See spreadsheet calculations)

= 3.88E-06 grains/cf x (40000 cfm x 0.80 x 60) / 7,000 grains/lb

= 0.001 lbs/hr = **0.024 lbs/day**.

No PM<sub>10</sub> monitoring condition proposed due to very low estimated emission.

### Estimated Carbon Breakthrough – VOC

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(Almost all of Ammonia and H<sub>2</sub>S are expected to be removed by multi-stage chemical scrubbers with 95% or better expected control efficiency and GAC adsorbers are used for polishing any residual odorous compounds present in downstream of scrubbers)

VOC loading per adsorber = 0.1 lb/hr /2 = 0.05 lbVOC/hr in 20,000 cfm air  
= 1.2 lb VOC/day (uncontrolled).

VOC adsorption capacity for GAC = 0.05 lb VOC/lb carbon x 12,670 lbs C = 633 lbs VOC  
Breakthrough (single adsorber, 20,000 cfm),  
= 633 lbs VOC/ 1.2 lbs VOC loading /day = 527 days = 1.44 yrs.

#### **AEIS/NSR:**

VOC, ammonia and H<sub>2</sub>S emissions are assigned to Sewage Treatment Plant, basic equipment A/N 520794, Sewage Treatment > 5 mgd. Therefore, emissions data entry under odor control equipment, A/N 520793 entered as zero (VOC, ammonia & H<sub>2</sub>S).

#### **A/N 520794, Modifications to Sewage Treatment Plant**

Emissions due to modifications, Job No. P1-101,

Pollutant	Uncontrolled (R1) lbs/hr	Controlled (R2) lbs/hr
VOC (TOC)	0.10	0.0049
H <sub>2</sub> S	4.30	0.043
NH <sub>3</sub>	5.38	0.054

#### **TOTAL EMISSIONS:** A/N 520794

Pollutant	Existing PC- 453210 lbs/hr		From Modifications (P1-101) lbs/hr		Total lbs/hr	
	R1	R2	R1	R2	R1	R2
VOC (TOC)	2.83	2.83	0.10	0.0049	2.93	2.83
H <sub>2</sub> S	0.06	0.06	4.30	0.043	4.36	0.10
NH <sub>3</sub>	-	-	5.38	0.054	5.38	0.05

#### **RULES EVALUATION:**

**Rule 212:** This is not a significant project in terms of emissions.  
There are no schools within 1000' of emission source.  
Emissions are expected below daily emission threshold.  
MICR is estimated 2.38E-08 (Res.) < ten in a million with T-BACT.  
No public notice is required.  
Compliance is expected.



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**Rule 401:** The equipment is not expected to emit visible emissions with proper operation and maintenance.

**Rule 402:** With proper operation, monitoring and maintenance of the equipment no odor complaints are anticipated.

**Rule 404:** No PM emissions expected from the foul air treated by multi-stage chemical scrubbers followed by a GAC system.  
Note: PM10 emission (dissolved salts entrainment) from chemical scrubbers with internal mist eliminators is estimated at 3.88E-06 grains/scf (for total 40,000 cfm exhaust) which is below 0.0463 grains/dscf allowed for 42380 cfm under Table 404(a). compliance is expected.

**Reg. 13:** CEQA – Proposed OCSD Project (No. P1-101), in accordance with US EPA's procedures for implementing National Environmental Policy Act (40CFR Part 6), EPA has determined that this project is eligible for categorical exemption under 40CFR §6.107 and is exempt from the substantive environmental review requirements of the National Environmental Policy Act (42 U.S.C. 4321 et seq). Copy of this exemption is included in folder.

For VOC, ammonia and H2S emissions control using multi-stage chemical scrubbers followed by GAC, and overall control efficiency of 99%, compliance with BACT/LAER is expected.

No Offset is required for VOC (0.117 lb/day).  
H2S and ammonia are not required any offset (ammonia is subject to BACT but not offset). Compliance is expected.

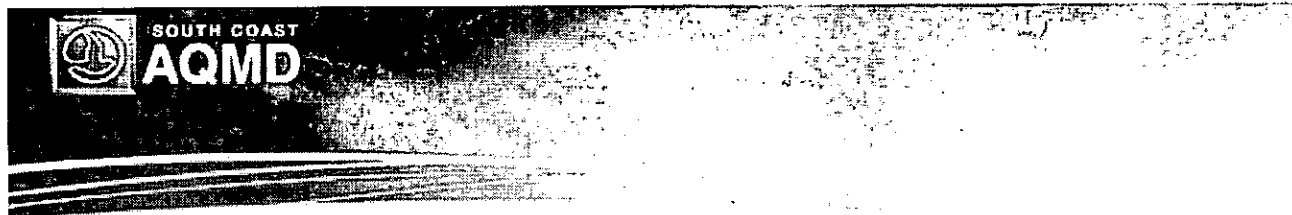
**Rule 1401:** Pass Tier 1 screening with pollutant screening index (PSI) <1, each for cancer/chronic ASI and acute ASI.  
Tier 2 results: MICR = 2.38E-08 (Res.) < 10 in a million with T-BACT.  
HIC and HIA are estimated to be < 1 for each applicable organ.  
Compliance is expected.

**Rule 1401.1:** Exempt. This is an existing facility.

**Reg. 30:** Most recent TV revision was issued August 27, 2010.  
OCSD has submitted A/N 520795 for Title V permit revision to include the proposed project, P1-101. Compliance can be expected with completion of public notice and EPA 45-day review.

### **RECOMMENDATION:**

A permit to construct is recommended subject to above listed conditions and, upon approval and issuance of the Title V permit revision.

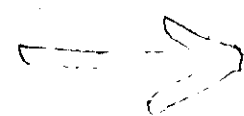


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### Emissions

**Facility ID** 17301  
**Company Name** ORANGE COUNTY SANITATION DISTRICT  
**Address** 10844 ELLIS AVE  
 FOUNTAIN VALLEY, CA 92708

Select AER Year:  ☒



### Criteria Pollutants (Tons per Year):

Pollutant ID	Pollutant Description	Annual Emissions
CO	Carbon Monoxide	227.600
NOX	Nitrogen Oxides	24.471
ROG	Reactive Organic Gases	35.224
SOX	Sulfur Oxides	0.729
TSP	Total Suspended Particulates	3.465

### Toxic Pollutants (Pounds per Year):

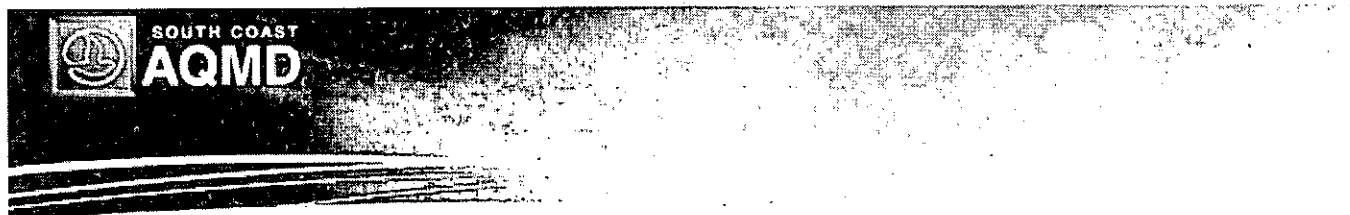
Pollutant ID	Pollutant Description	Annual Emissions
106990	1,3-Butadiene	11.980
91576	2-Methyl naphthalene [PAH, POM]	0.823
83329	ACENAPHTHENE	0.031
208968	ACENAPHTHYLENE	0.136
7664417	Ammonia	6449.748
7440382	Arsenic	0.914
191242	B[GHI] PERYLENE	0.010
71432	Benzene	44.633
205992	Benzo[b]fluoranthene	0.004
192972	Benzo[e]pyrene [PAH, POM]	0.010
7440439	Cadmium	0.238
56235	Carbon tetrachloride	8.759
18540299	Chromium (VI)	0.000
218019	Chrysene	0.017
106934	Ethylene dibromide	1.097
107062	Ethylene dichloride	6.473

206440	FLUORANTHENE	0.027
86737	FLUORENE	0.140
50000	Formaldehyde	19297.1352
7439921	Lead (inorganic)	1.392
71556	Methyl chloroform	8.860
75092	Methylene chloride	317.684
91203	Naphthalene	2.453
7440020	Nickel	0.812
1151	PAHs, total, with components not reported	0.383
85018	PHENANTHRENE	0.257
129000	PYRENE	0.033
127184	Perchloroethylene	231.724
79016	Trichloroethylene	7.065
75014	Vinyl chloride	14.500

Note - Data for 2007 represents the six-month transitional period, July through December 2007, when the rules reporting changed from a fiscal year to a calendar year basis.

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### Emissions

**Facility ID** 17301  
**Company Name** ORANGE COUNTY SANITATION DISTRICT  
**Address** 10844 ELLIS AVE  
 FOUNTAIN VALLEY, CA 92708

Select AER Year:

### Criteria Pollutants (Tons per Year):

Pollutant ID	Pollutant Description	Annual Emissions
CO	Carbon Monoxide	213.546
NOX	Nitrogen Oxides	23.714
ROG	Reactive Organic Gases	25.382
SOX	Sulfur Oxides	0.719
TSP	Total Suspended Particulates	2.963

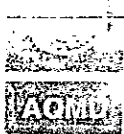
### Toxic Pollutants (Pounds per Year):

Pollutant ID	Pollutant Description	Annual Emissions
106990	1,3-Butadiene	11.205
91576	2-Methyl naphthalene [PAH, POM]	0.676
83329	ACENAPHTHENE	0.025
208968	ACENAPHTHYLENE	0.112
75070	Acetaldehyde	5.079
107028	Acrolein	0.637
7664417	Ammonia	6097.643
7440382	Arsenic	0.929
191242	B[GHI] PERYLENE	0.008
71432	Benzene	42.291
205992	Benzo[b]fluoranthene	0.003
192972	Benzo[e]pyrene [PAH, POM]	0.008
7440439	Cadmium	0.243
56235	Carbon tetrachloride	8.706
18540299	Chromium (VI)	0.000
218019	Chrysene	0.014

7440508	Copper	0.015
9901	Diesel engine exhaust, particulate matter	122.945
100414	ETHYL BENZENE	74.046
106934	Ethylene dibromide	0.902
107062	Ethylene dichloride	6.451
206440	FLUORANTHENE	0.022
86737	FLUORENE	0.115
50000	Formaldehyde	19125.920
110543	HEXANE	1.585
7647010	Hydrochloric acid	0.683
7439921	Lead (inorganic)	1.424
7439965	Manganese	0.011
7439976	Mercury	0.007
71556	Methyl chloroform	8.159
75092	Methylene chloride	341.625
91203	Naphthalene	2.248
7440020	Nickel	0.829
1151	PAHs, total, with components not reported	0.466
85018	PHENANTHRENE	0.211
129000	PYRENE	0.027
127184	Perchloroethylene	214.156
7782492	Selenium	0.008
108883	Toluene	3.364
79016	Trichloroethylene	14.328
75014	Vinyl chloride	14.631
1330207	Xylenes	1.645

Note - Data for 2007 represents the six-month transitional period, July through December 2007, when the rules reporting changed from a fiscal year to a calendar year basis.

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# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • www.aqmd.gov

August 27, 2010

*Reference*

Mr. James D. Ruth  
General Manager  
Orange County Sanitation District  
PO Box 8127  
Fountain Valley, CA 92728-8127

Subject: Administrative Revision to Title V Facility Permit  
Fountain Valley, Plant 1 (Facility ID 017301)

Dear Mr. Ruth,

Enclosed please find an administrative revision to the Title V facility permit, for the Orange County Sanitation District (OCSD) Fountain Valley, Sewage Treatment Plant No. 1 (Facility ID 017301), located at 10844 Ellis Avenue, Fountain Valley, California. This revision does not require public notice or EPA review.

The administrative revision includes the final permit to operate for an air pollution control equipment for which a permit to construct (R-299283) was previously issued. There are no changes in the permit wording or conditions except for removal of terms or conditions that are no longer applicable.

This administrative permit revision includes Title Page (Rev 04), Table of Contents (Rev 04), Section D (Rev 02) and Section H (Rev 03).

The following application is added to Section D - Facility Equipment and Requirements, and removed from Section H - Permits to Construct and Temporary Permits to Operate.

Appl. No.	Description
299283	Air pollution control equipment, scrubber, for treatment of the primary basins' exhaust.

Please review the attached Sections D & H carefully. Insert the enclosed section(s) in your Title V Facility Permit and discard the earlier versions. Questions concerning this revised permit should be directed to Mr. Gaurang Rawal at (909) 396-2543.

The operation of your facility is bound by the conditions and/or requirements stated in your Facility Permit to Operate. If you determine any administrative errors, please contact Mr. Gaurang Rawal at the above number within 30 days of receipt of your permit.

Sincerely,

Jay Chen, P.E.  
Senior AQ Engineering Manager  
Refinery and Waste Management Permitting

JC: CDT: GCR  
cc: w/ enclosure  
Geraldo Rios, EPA Region IX  
Compliance  
Title V Central File

## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

### **Facility Equipment and Requirements (Section D)**

This section consists of a table listing all permitted equipment at the facility, facility wide requirements, all individual Permits to Construct and Permits to Operate issued to various equipment at the facility, and Rule 219-exempt equipment subject to source-specific requirements. Each permit and Rule 219-exempt equipment will list operating conditions including periodic monitoring requirements, and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.

## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMITTED EQUIPMENT LIST

THE FOLLOWING IS A LIST OF ALL PERMITS TO CONSTRUCT AND PERMITS TO OPERATE AT THIS FACILITY:

Application Number	Permit to Operate Number	Equipment Description	Page Number
299283	G9737	SCRUBBER, ODOR CONTROL FOR PRIMARY BASINS	4
06049A	M30530	GAS TURBINE, EMERGENCY, >= 0.3 MW	6
06050A	M30531	GAS TURBINE, EMERGENCY, >= 0.3 MW	7
133994	R-D11231	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	8
133995	R-D11232	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	9
134619	R-D11233	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	10
135464	R-D11234	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	11
13973X	743973	SPRAY BOOTH PAINT AND SOLVENT	12
223413	F00876	BOILER (5-20 MMBTU/HR) DIGESTER GAS	13
356878	F66565	SEWAGE TREATMENT (>5 MG/D) ANEROBIC	15
386679	F40906	SCRUBBER, ODOR CONTROL FOR DEWATERING	18
408166	F55982	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	19
428945	F68430	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	20
429662	F71054	FLARE, ENCLOSED LANDFILL/DIGESTER GAS	21
444109	F99404	SCRUBBER, ODOR CONTROL FOR HEADWORKS	26
459958	F94280	ODOR CONTROL UNIT FOR ELLIS PUMP STATION	28
486760	G2955	I C E (>500 HP) NAT & DIGESTER GAS	30
486792	G2956	I C E (>500 HP) NAT & DIGESTER GAS	33
486793	G2957	I C E (>500 HP) NAT & DIGESTER GAS	36

**NOTE:** APPLICATIONS THAT ARE STILL BEING PROCESSED AND HAVE NOT BEEN ISSUED PERMITS TO CONSTRUCT OR PERMITS TO OPERATE WILL NOT BE FOUND IN THIS TITLE V PERMIT.





# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • www.aqmd.gov

*Reference*

May 5, 2010

Mr. James D. Ruth  
General Manager  
Orange County Sanitation District  
PO Box 8127  
Fountain Valley, CA 92728-8127

Subject: Significant Revision to Title V Facility Permit, Revision No. 3.  
Fountain Valley, Plant 1 (Facility ID 017301)

Dear Mr. Ruth,

Enclosed please find the De-Minimis Significant Revision (Section H, Revision on January 29, 20102) to the Title V facility permit, for the Orange County Sanitation District (OCSD) Fountain Valley, Sewage Treatment Plant No. 1 (Facility ID 017301), located at 10844 Ellis Avenue, Fountain Valley, California. On January 29, 2010, the South Coast Air Quality Management District (AQMD) issued draft permit for Environmental Protection Agency's (EPA) review, and no comments were received from EPA. No public notice was required.

The de-mimimis significant revision includes Title Page, Table of Contents, and Section H.

Section H: Included Permit to Construct for A/N 504150 for modifications to odor control equipment permit, F94280.

Please review the attached pages carefully. Insert the enclosed section(s) in your Title V Facility Permit and discard the earlier versions. Questions concerning this revised permit should be directed to Mr. Gaurang Rawal at (909) 396-2543.

The operation of your facilities is bound by the conditions and/or requirements stated in your Facility Permit to Operate. If you determine any administrative errors, please contact Mr. Gaurang Rawal at the above number within 30 days of receipt of your permit.

Sincerely,

Jay Chen, P.E.  
Senior AQ Engineering Manager.  
Refinery and Waste Management Permitting

JC: CDT: GCR

cc: w/ enclosure  
Geraldo Rios, EPA Region IX  
Compliance  
Title V Central File  
Title V Revision (No. 3) A/N 504320

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**FACILITY PERMIT TO OPERATE  
ORANGE COUNTY SANITATION DISTRICT**

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SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

This section consists of a table listing all equipment with Permits to Construct and copies of all individual Permits to Construct issued to various equipment at the facility. Each permit will list operating conditions including periodic monitoring requirements and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.

## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

### **PERMITTED EQUIPMENT LIST**

THE FOLLOWING IS A LIST OF ALL PERMITS TO CONSTRUCT AND PERMITS TO OPERATE AT THIS FACILITY:

<b>Application Number</b>	<b>Permit to Construct Granted On</b>	<b>Equipment Description</b>	<b>Page Number</b>
R-299283	6-22-2004	SCRUBBER, ODOR	3
394229	4-19-2002	ODOR CONTROL UNIT	6
432418	11-18-2004	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	7
453210	10-17-2006	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	10
494460	02-09-2010	BOILER (>10 MMBTU/HR) NAT GAS & DIGESTER GAS	15
504150	05-05-2010	ODOR CONTROL UNIT	19

**NOTE:** EQUIPMENT LISTED ABOVE THAT HAVE NO CORRESPONDING PERMITS TO OPERATE NUMBER ARE ISSUED PERMITS TO CONSTRUCT. THE ISSUANCE OR DENIAL OF THEIR PERMITS TO OPERATE IS SUBJECT TO ENGINEERING FINAL REVIEW. ANY OTHER APPLICATIONS THAT ARE STILL BEING PROCESSED AND HAVE NOT BEEN ISSUED PERMITS TO CONSTRUCT OR PERMITS TO OPERATE WILL NOT BE FOUND IN THIS TITLE V PERMIT.



# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)

July 21, 2011

TERRY AHN  
ORANGE COUNTY SANITATION DISTRICT  
P.O. BOX 8127  
FOUNTAIN VALLEY, CA 92728

Facility ID: 17301  
Located at: 10844 ELLIS AVE, FOUNTAIN VALLEY

Thank you for filing your application(s) with the South Coast Air Quality Management District (AQMD).

The application number(s) assigned by AQMD to your application package(s) is/are on Page 2 of this letter. Please refer to information on Page 2 when contacting AQMD for assistance. The information you submitted with your application(s) or in your latest submittal is complete to the extent that allows us to begin processing of your however some clarifying data may still be needed. The acceptance of your application(s) does not imply that permit(s) has/have been approved.

The engineer assigned to your application(s) will contact you if additional information is required.

If you have any questions or need additional information about your application(s), please contact the engineer listed below:

**Engineer:** GAURANG RAWAL

**Telephone:** (909) 396-2543

For general information about AQMD's permit process, please call (909) 396-2468.

cc: Application file(s)

## AQMD PERMIT APPLICATION INFORMATION

(Please refer to this information when contacting AQMD for Assistance)

July 21, 2011

Facility ID: 17301

Application Number(s)	Equipment Description
520793	ODOR CONTROL UNIT
520794	SEWAGE TREATMENT (>5 MG/D) ANEROBIC
520795	Title V Permit Revision

} Job  
P1-101

**Permit Administration and Application Tracking System**

File Edit Applications/Permits Facilities Maintenance Reports Window Help

**Screening Fee Assessment**

Screening Application

Facility Id: 17301 Appl Tracking Nbr: Facility On Hold

Fac Name: ORANGE COUNTY SANITATION DISTRICT

Sic Code: 4952 Nbr Of Employees: 427 Gross Rcpts: \$00

Pre Screen Checks

Row	Appl Tracking Number	Appl Type	BCAT Number	CCAT Number	Equip Type	Appl Class	Appl Turnover Time	Prev Permit Nbr	Occur Date	Fees	Est. Start Date	Est. Compl. Date	Reloc. Ind	Iden. Equip	Current Fiscal Year	Initial Application	Expedited Processing
1	520793	10		40	Conf	CLASS 1	100 day		00/00/0000	6,050.640	03/20/2012	05/10/2015					
2	520794	50	022700		Bas	CLASS 1	100 day	453210	00/00/0000	13,262.740	03/20/2012	05/18/2015					
3	520795	57	555007		Bas	CLASS 3	Title V		00/00/0000	861.520	00/00/0000	00/00/0000					

Fac Team: A Engr. Id: GP01 Phone No: 8093962543

Select All ☒ Total: 27,063.10

Buttons: Select Calc Fee Deem Complete Pending Reject COMMENTS

Ready Start Inbox - Microsoft Outlook Permit Administration ... 3:12 PM

7-21-2011





# ORANGE COUNTY SANITATION DISTRICT

We protect public health and the environment by providing effective wastewater collection, treatment, and recycling.

March 31, 2011

## Permit Services

South Coast Air Quality Management District  
21865 E. Copley Drive  
Diamond Bar, CA 91765-4182

**SUBJECT:** Application for Title V Permit Revision/Permits-to-Construct: New Sludge Thickening and Dewatering Facility and Odor Control System at Orange County Sanitation District Plant No.1 (OCSD Job No. P1-101)

The purpose of this letter is to submit an application for Title V permit revision/Permits-to-Construct new Sludge Thickening and Dewatering Facility and Odor Control System at Orange County Sanitation District's Plant No. 1 located in Fountain Valley, CA. (SCAQMD Facility ID. 017301).

The new Sludge Thickening and Dewatering Facility (Facility) will consist of three sludge blending tanks, three sludge thickening centrifuges, three thickened sludge wetwells, three dewatering centrifuges, two dewatered cake hoppers, and other associated equipment. The new Facility will replace the existing belt press dewatering system and upgrade or replace sludge conveyance and pumping system, cake storage and load-out system, chemical feed system, ventilation system and various other electrical and control systems. SCAQMD Permit-to-Construct No. 453210 will need to be modified to allow the construction of the new Facility.

The new Odor Control System serving the new Facility will consist of three multi-stage chemical scrubber trains (two duty and one standby) followed by two carbon adsorbers and chemical feed system. The new system will be a complete replacement of the existing Dewatering Facility Scrubbers (SCAQMD Permit No. F40906) and will require a new permit-to-construct.

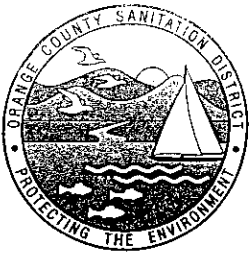
Enclosed with this letter are:

- (3) SCAQMD Form 400-A: Application for Permit to Construct and Permit to Operate
- (1) SCAQMD Form 500-A1: Title V Application Submittal
- (1) SCAQMD Form 500-A2: Title V Application Certification
- (1) SCAQMD Form 500-C1: Title V Compliance Status Report
- (1) SCAQMD Form 400-CEQA with a copy of Notice of Determination
- (1) SCAQMD Form 400-E-3: Scrubber
- (1) SCAQMD Form 400-E-2b: Carbon Adsorber
- (2) SCAQMD Form 400-PS: Plot Plan and Stack Information
- (1) SCAQMD Form 400-XPP: Express Permit Processing Request
- Supplemental Information
- A check in the amount of \$27,003.10 for the processing fee

Serving  
Anaheim  
Brea  
Buena Park  
Cypress  
Fountain Valley  
Fullerton  
Garden Grove  
Huntington Beach  
Irvine  
La Habra  
La Palma  
Los Alamitos  
Newport Beach  
Orange  
Placentia  
Santa Ana  
Seal Beach  
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Tustin  
Villa Park  
Yorba Linda  
Costa Mesa  
Sanitary District  
Midway City  
Sanitary District  
Irvine Ranch  
Water District  
County of Orange

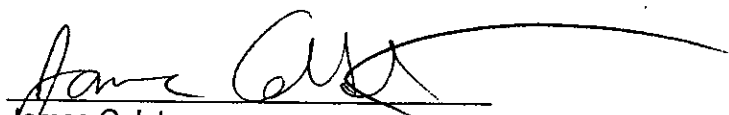


recycled paper



Permit Services  
Page 2  
March 31, 2010

If you have any questions or require further information, please contact Terry Ahn at (714) 593-7082 or [tahn@ocsd.com](mailto:tahn@ocsd.com).

  
James Colston  
Environmental Compliance Manager

TA:JC:jb  
H:\dept\eng\790\Groups\Compliance\Staff\ahn\Permitting Projects\P1-101\_Centrifuge\Permitting\P1-101\_ApplCvr.doc

Enclosure(s)

cc: V. Kogan (w/o enclosures)  
Gaurang Rawal (SCAQMD)